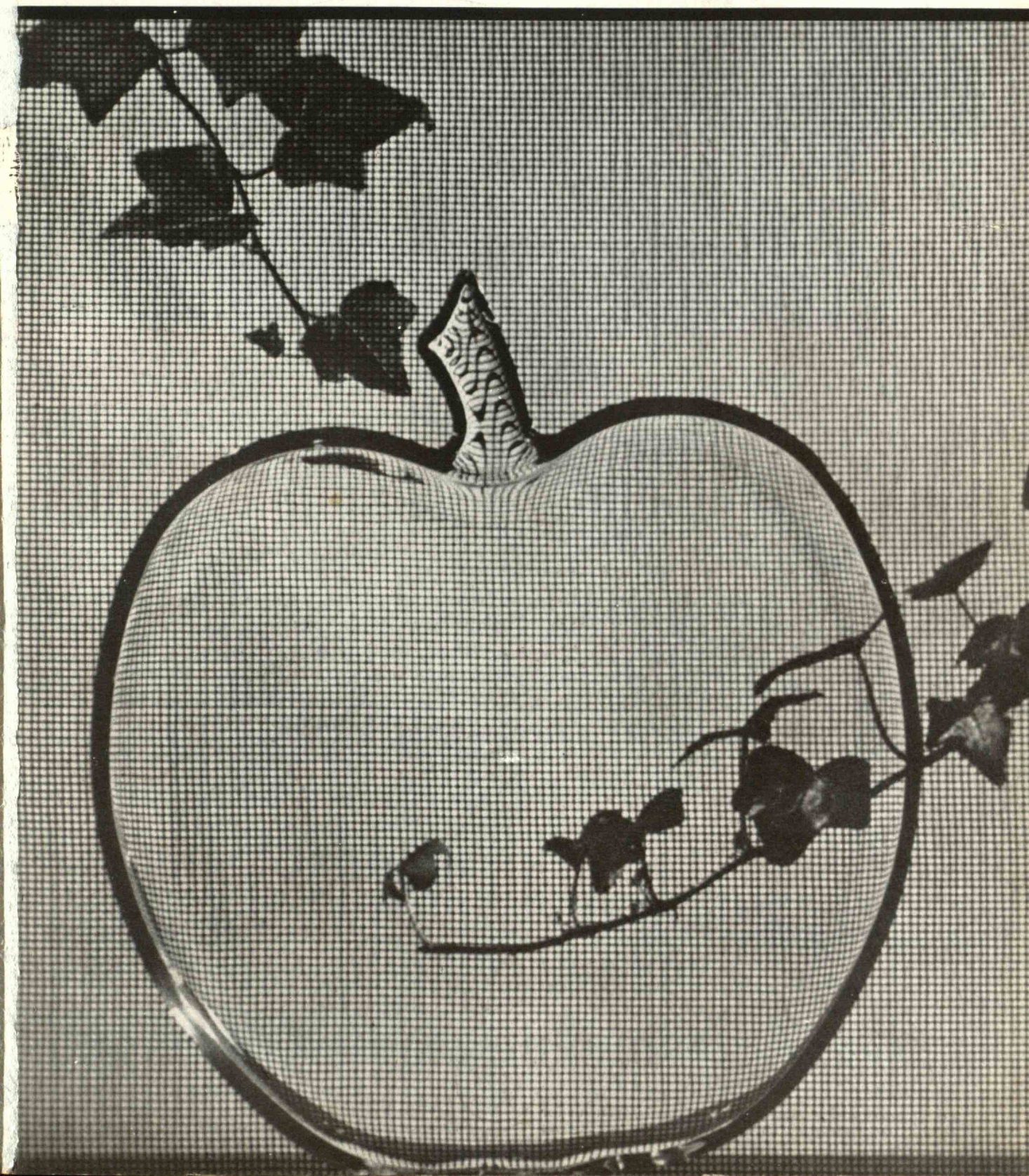


TECHNOLOGY

REVIEW *November 1955*



technology review

Published by MIT

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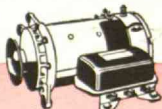
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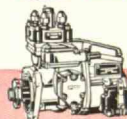
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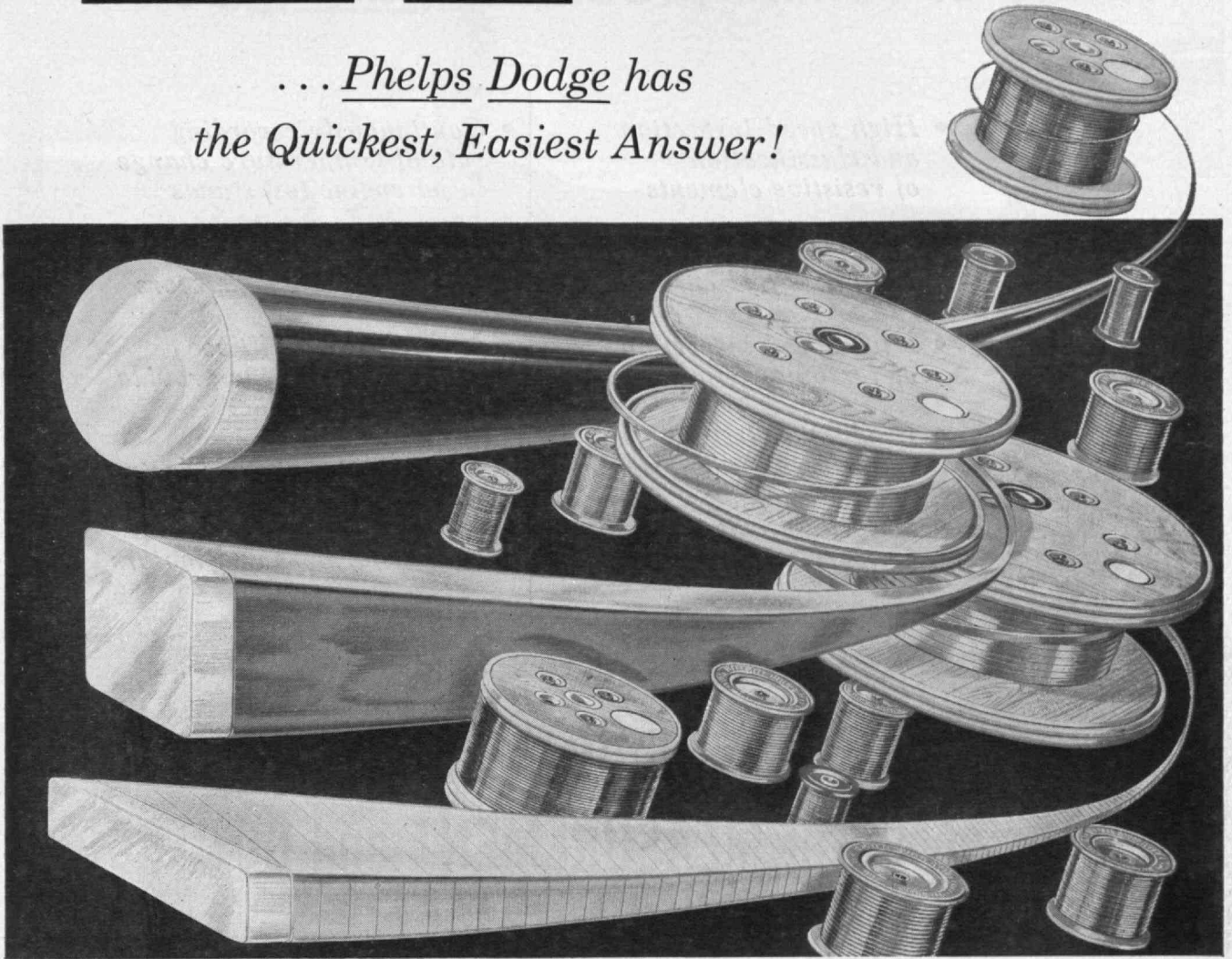
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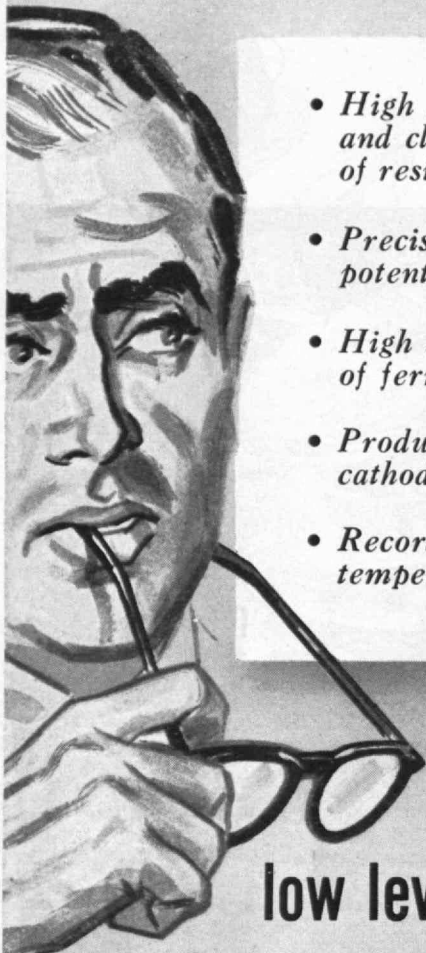


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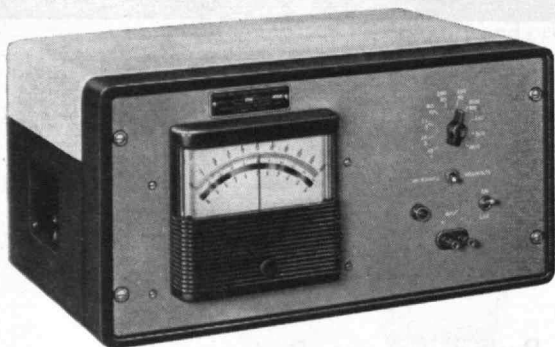
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THE TECHNOLOGY REVIEW



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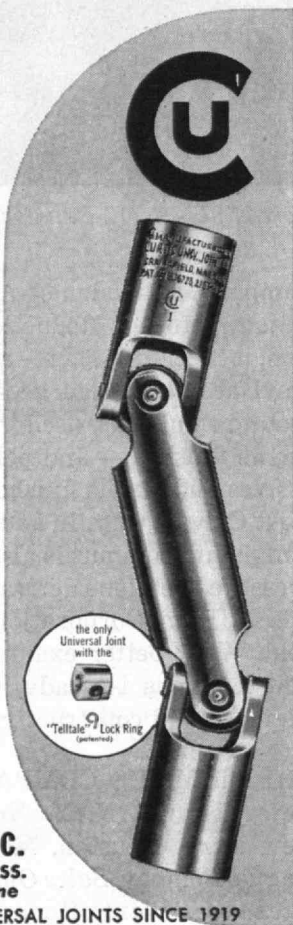
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THE TABULAR VIEW

Atomic Energy Impact. — Our article "The Impact of Atomic Energy on the Physical and Chemical Sciences" (page 15) is a report on an Alumni Day address by JOHN VON NEUMANN, Commissioner of the Atomic Energy Commission. Educated at Berlin University, Zurich Technische Hochschule, and the University of Budapest (where he received the Ph.D. degree in 1925), Dr. von Neumann became visiting professor in mathematical physics at Princeton University in 1930. He was later professor at the Institute for Advanced Study at Princeton, and consultant and member of various scientific boards and commissions for the United States government.

Weather by Radar. — "Radar and the Weather" (page 18) by PROFESSOR HENRY G. HOUGHTON, '27, is one of the papers presented by a Faculty member to the 350 persons who attended the Alumni Officers' Conference at M.I.T. on September 9 and 10. Professor Houghton received the B.S. degree from Drexel Institute in 1926, the S.M. from M.I.T. in 1927, and the D.Sc. degree from Drexel in 1947. He conducted research at Round Hill, South Dartmouth, Mass., from 1928 to 1938; became assistant professor, 1939; associate professor, 1942; and since 1945, professor and head of the Department of Meteorology. Dr. Houghton's principal studies have been of fog, clouds, precipitation, and atmospheric radiation.

Conference. — The Editorial Staff of The Review is proud to present (page 22) its 18,000-word report on the Alumni Officers' Conference, held at M.I.T. on September 9 and 10. This is the most detailed and complete report on M.I.T. activities to appear in The Review during the last 25 years and follows in quick succession the Review-prepared copy of 18 pages on the Kresge Auditorium (June, 1955) and 14 pages on Alumni Day and commencement (July, 1955).

(Concluded on page 6)



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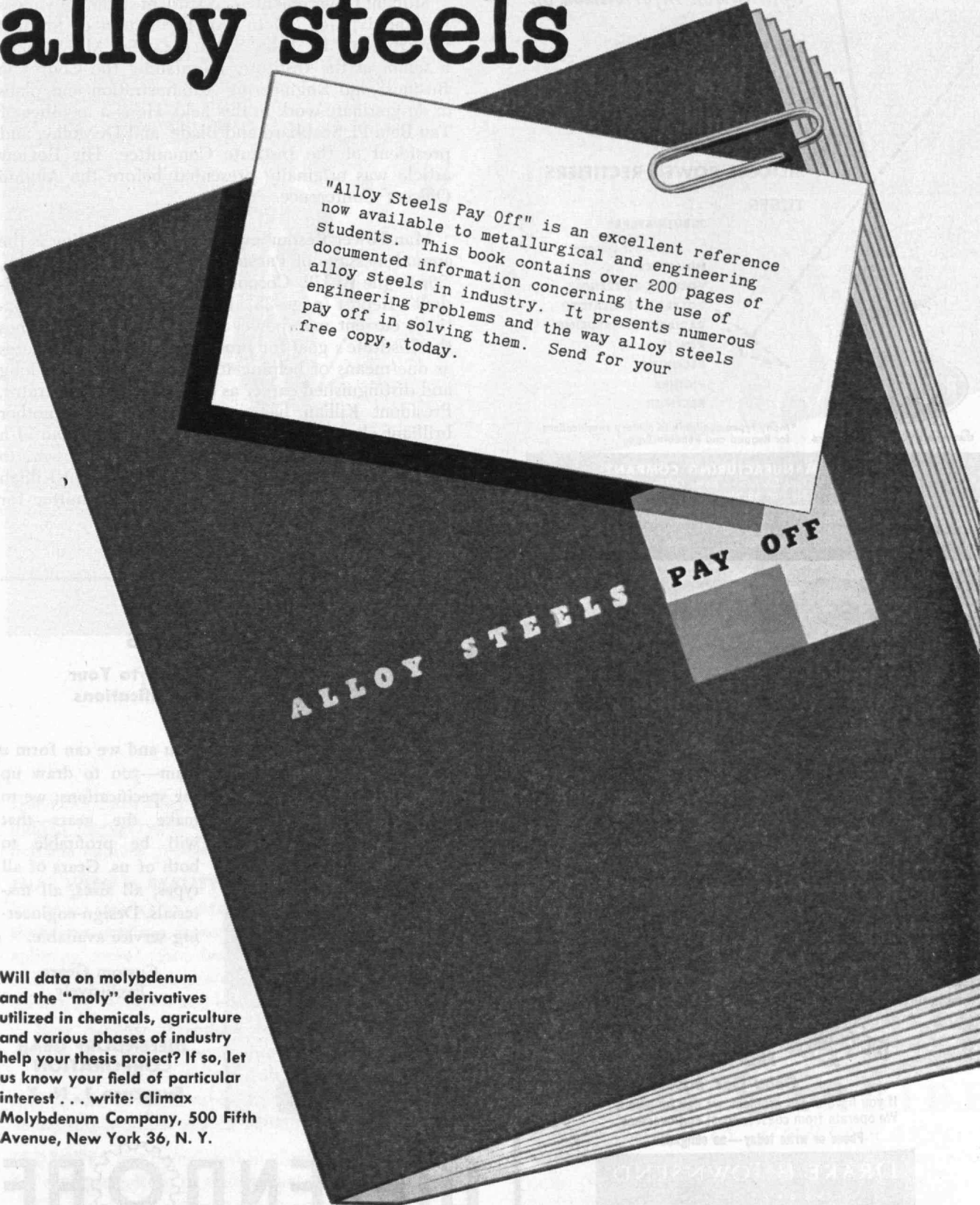
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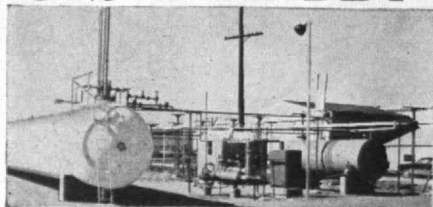
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THE TABULAR VIEW

(Concluded from page 4)

Student Government. — A student's point of view is presented (page 31) in "An Evaluation of Student Government" by JOHN S. SALOMA, 3D. Mr. Saloma, a senior at the Institute, is pursuing the Course in Business and Engineering Administration and plans to do graduate work in this field. He is a member of Tau Beta Pi, Scabbard and Blade, and DeMolay, and president of the Institute Committee. His Review article was originally presented before the Alumni Officers' Conference.

Man-Power Resources. — Always stimulating is the annual message of PRESIDENT JAMES R. KILLIAN, JR., '26, to the M.I.T. Corporation. In this year's President's Report (page 33), Dr. Killian outlines the nation's current man-power needs, and clearly defines the Institute's goal for producing superior graduates as one means of helping to fill this need. To a long and distinguished career as editor, and administrator, President Killian has recently concluded another brilliant chapter as public servant, as chairman of a committee, appointed by President Eisenhower, to study the nation's defense program. President Killian has also been named chairman of a committee for planning Atoms for Peace Awards.



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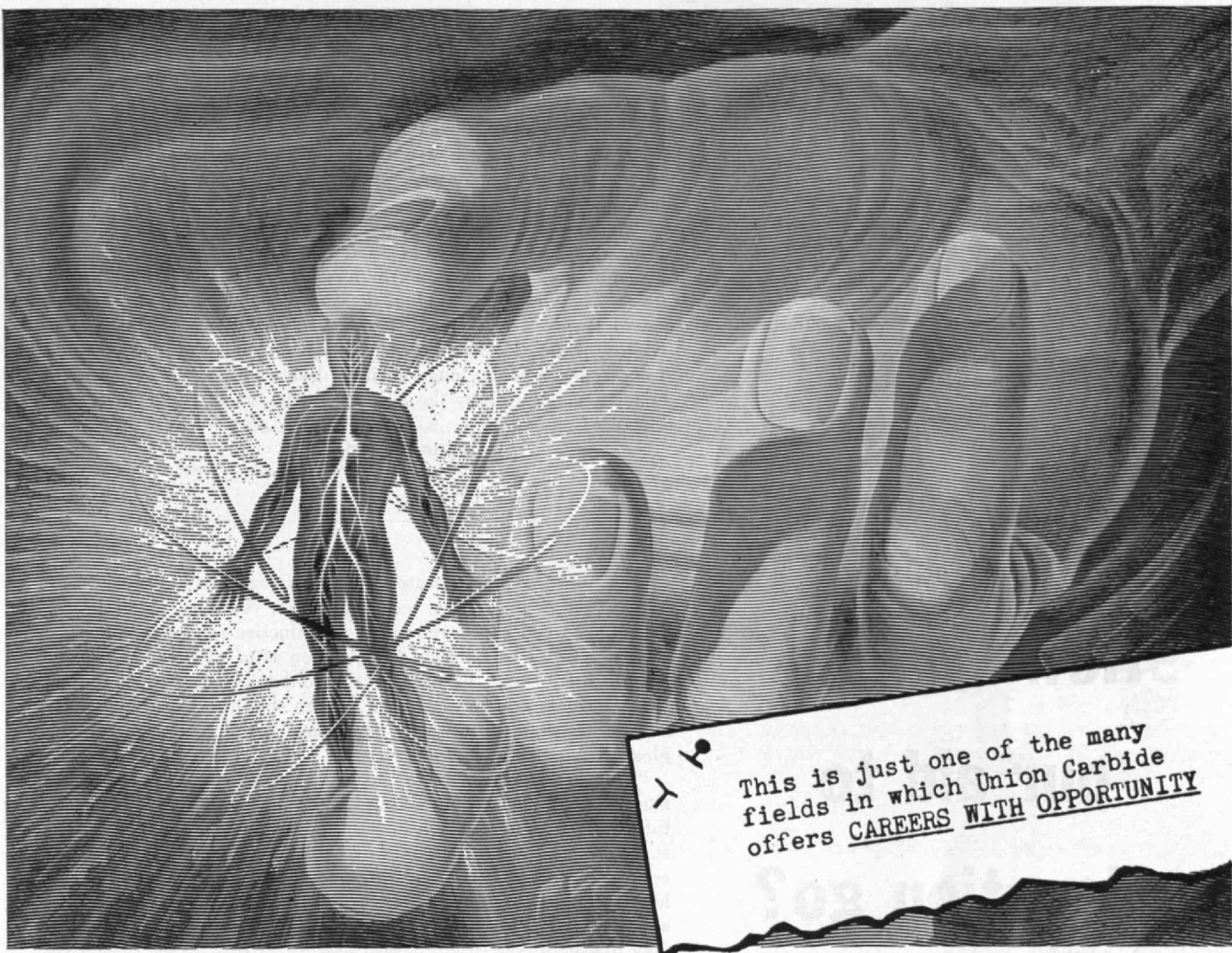
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control processes, and to help answer mysteries of how plants absorb nourishment from the soil and how it affects their growth and health.

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"**W**HATEVER the plan, there must be more support per person and per corporation. We'll all just have to dig a little deeper. In recent years, our bill for organized education in all categories has been running at less than 4% of the Gross National Product. With predicted growth in our national output, if we can increase only a little the percentage spent on education, our needs will be met.

"Under the Corporate Alumnus Program, the General Electric Educational and Charitable Fund matches up to \$1,000 donated by employees to their alma maters. This concept is based upon the belief that the individual decisions of thousands will form a sound basis for widespread support of education... The responsibility of the alumni group is, I believe, to sell the idea that in a free economy in the long run it is desirable that the real cost of education be borne by the individual who gets the education and benefits from it."*

— PHILIP D. REED,

Chairman of the Board of Directors, General Electric Company

How far can our aid to education go?

"**T**HIS approach (Corporate Alumnus Program) is only a start. But it is rooted in the recognition that you and I can't longer continue to run a progressive and productive school system on a charity basis. I will answer the question as to who should pay for a college education by offering the cold-nosed conclusion that in a free economy in the long run it both should be, and rightfully can be, the man who gets the education; and that should be made clear to him the day he starts to get it.

"Of course, we also favor business support, for business draws many of its ablest profit-making human resources from your institutions. We must examine such support, however, instance by instance, and never let it slide into any license to dictate policy or to restrict academic activities ably conceived by courageous and level-headed educators who are truly alert to both the challenges and the opportunities of the economy and the society in which they live."*

— HAROLD F. SMIDDY,

Vice President, Management Consultation Services, General Electric

What obligation does an alumnus have?

"**I**s it such a revolutionary idea that the real cost of education be borne by the individual who gets that education and benefits from it? Not necessarily across the barrel head, not necessarily all at once, and not necessarily even under certain sets of circumstances. But I submit that it is an unhealthy idea for an individual to expect society to pay his education bill, any more than to expect society to pay for his food, clothing, shelter, hospitalization, vacations, and ultimately for the education of his children and grandchildren, too.

"One of the first things that business babes in the education woods learned was that practically nobody pays the real cost of his education. One reason is that he is never asked to pay it. We have acknowledged that the organization of which an individual is a part shares the benefits, and we are willing to help pay the bill — but this is a joint undertaking."*

— KENNETH G. PATRICK,

Manager, Educational Relations, General Electric

*For free copies of any of the complete talks from which these remarks were taken, write to Educational Relations, Dept. 2-119, General Electric Company, Schenectady, New York.

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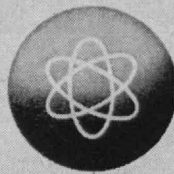


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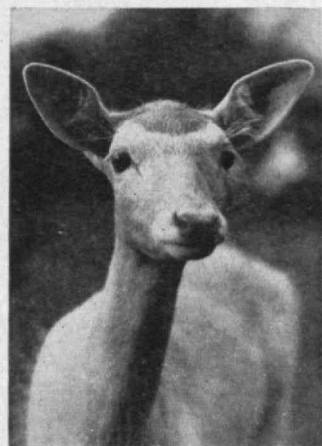
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Raymond E. Hanson

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Autumn foliage enhances the traditional architecture of this house in Lancaster.

THE TECHNOLOGY REVIEW

Vol. 58, No. 1

November, 1955



The Trend of Affairs

Brand Loyalty

MANUFACTURERS of consumer products devote a great deal of effort to the marketing of their products in accordance with high standards of quality and uniformity. They also expend much effort in attempts to identify their products, in the minds of actual or potential customers, by means of brand designations.

As one means of enhancing profits, it is not surprising, therefore, that marketing executives would like to see an increase in the proportion of families whose purchases are customarily made on the basis of brand loyalty, or that they would like to see a decrease in that segment of consumers whose purchases reflect little or no brand preferences. The methods by which this marketing objective might be achieved are by no means clear. Indeed, it is not even definitely known whether brand loyalty is primarily a characteristic of the personal habits and preferences of the purchaser, or whether the type of commodity sold or the merchandising technique employed is the major factor in brand selection.

Because very little has been published on this broad general topic, a program of research on brand loyalty has been conducted by Ross M. Cunningham, Associate Professor of Marketing, with the support of the Sloan Research Fund of the Institute's School of Industrial Management and the co-operation of the Chicago *Tribune's* purchase panel. At the beginning of the project he was assisted by Donald R. Sohn, then instructor in Marketing, and more recently by Roger K. Olen, '55, and Charles Y. Chittick, Jr., '50, research assistants. Stimulated in part, by the important work of George H. Brown, this program investigates new aspects of brand loyalty and new methods of measurement.

One major objective of this study is to determine whether there are families (in sufficient numbers as to be significant to marketing executives) who are

inclined toward brand loyalty, regardless of products purchased; and whether there are also significant numbers who are disinclined to favor product brands.

This study is believed to be the first investigation of loyalty-proneness, or the persistence of brand loyalty in individual families, in purchasing a number of different types of products. It provides new information on consumer buying behavior and develops a necessary foundation for field research into the characteristics of families favorable and unfavorable to brand loyalty. Available socioeconomic data on the families studied have been analyzed, but this does not explain their buying behavior. By means of later field investigations of the families identified in this study, it is hoped that general methods may be found for locating brand-loyal families and for developing effective techniques for appealing to this type of group for the purchase of specific brands of commodities.

Purchase records, based on weekly reports from 650 families in the Chicago *Tribune* purchase panel, during the years 1950, 1951, and 1952 contributed the major source of information used in this study. Seven different frequently used household products are studied: coffee, canned peas, oleomargarine, frozen orange concentrate, toilet soap, scouring cleansers, and headache remedies. For each purchase, the records give the date, brand, size of package, number of units, price, and store where purchase was made. With such data at hand, the first step was to identify a group of 402 families who had reported continuously over the three-year period. Then minimum thresholds were set for each commodity and families buying less than these amounts were excluded from the analysis.

Brand loyalty for each family has been measured by computing the per cent of total three-year purchases for each commodity on four bases: (1) percentage represented by the largest single brand; (2)

percentage represented by the two largest brands; (3) percentage represented by consumption of the largest single brand after deducting purchases on special "deals"; and (4) percentage represented by consumption of the two largest brands after deducting purchases on special "deals." Various analyses have been made of the families buying each product, using these four measures of brand loyalty. In some analyses, these measures have been expressed as ranks and in others as absolute numbers.

The basic validity of these brand loyalty measurements has been proved by analyses of the values which would be found under conditions of random purchase, taking into account both the number of brands typically available and the store-purchasing habits of the families.

In order to measure the existence and extent of loyalty-proneness, it has been necessary to identify static samples of families purchasing groups of products in amounts greater than threshold quantities. There are 244 families who purchased coffee, canned peas, toilet soaps, and scouring cleansers over the three-year period, and 66 families who purchased all seven products mentioned previously. These have been analyzed statistically.

In addition to the main elements in the investigation, other aspects of the problem have been studied. These include an examination of the relationships between brand loyalty and store loyalty; between brand loyalty and proportion of purchases made on special price inducements; between the several socioeconomic factors available on the panel families and their brand loyalty performance; between time patterns in purchasing and brand loyalty; between rate of acceptance on new brands and brand loyalty; and a number of other aspects.

Some tentative conclusions may be stated. The upper ranges of brand loyalty appear to run higher than would be expected from the literature and opinions of many marketing people. There are differences between products, with headache remedies and scouring cleansers measuring higher than coffee and frozen orange concentrates, while toilet soaps and canned peas are lower. However, the single brand loyalty of the top 10 per cent of the 66 seven-product families averaged over 90 per cent for all products except the two lowest—toilet soaps and canned peas—for which it was 84 per cent. The bottom 10 per cent of the families had percentages between 20 and 33. There is a limited tendency toward loyalty-prone behavior. There is a meaningful inverse correlation between brand loyalty and families who purchase heavily on "deals."

High Steaks

A JUICIER, tenderer steak can usually be found in certain restaurants than on any home dining table, even when the best meat available in retail butcher shops is purchased for serving at home. It is true that ordinarily the finest meat is all taken up by restaurants and hotels, and never reaches retail food stores. But it also is true that eating places specializing in steaks generally age the meat, for the purpose of enhancing tenderness, considerably longer than

does the retail butcher. Indeed so-called "steak house" restaurants sometimes have refrigerators built into their show windows, displaying great quantities of beef undergoing extended aging. Such aging is costly, not only because of the expense of the necessary refrigeration facilities, but also because long aging causes surface discoloration and deterioration, that necessitates trimming off and discarding substantial amounts of meat.

When an animal is slaughtered for meat, the muscles soon go into *rigor mortis*, becoming rigid. Then a slow, gradual softening of the meat ensues. Aging of meat for tenderizing merely involves holding it until this spontaneous softening process is well advanced. Originally, it was thought that softening during storage was due to proteolysis or liquefaction (essentially putrefaction) of the tough connective tissue present throughout all meat. But recent exhaustive chemical studies of meat from a large number of animals, stored for various periods of time, indicate that this is not true. No changes in connective tissue were found even after prolonged storage.

Increasing tenderness was, however, correlated with changes of two types observed in muscle tissue. One of these changes was shifting interrelationships of two muscle plasma proteins, called *myosin* and *actin*. In living muscle, these two proteins apparently are separate, and in such form are soft and readily extensible. When *rigor mortis* develops, actin and myosin are thought to unite into a substance called *actomyosin*. This protein is inextensible, and accounts for the rigidity of muscle in *rigor mortis*. During aging, actomyosin apparently slowly dissociates into actin and myosin, thus restoring softness.

The studies cited also obtained presumptive evidence that metallic ions, such as potassium, migrate from one muscle protein to another during aging, and in doing so may enhance the hydration or moistness (hence tenderness) of the meat.

Other recent research, on storage of beef, measured effects of air temperature, air speed, and relative humidity on drying and discoloration of the meat. Recommendations for optimal storage conditions, to minimize wastage from necessary surface trimming, resulted.

Studies such as those just summarized have practical implications for devotees of tender steaks. Once the actual mechanisms of meat tenderizing during aging are fully known, perhaps the changes involved may be brought about by accelerated methods, thus reducing costs. For example, if ion migration is the answer, such migration might be forced by infusion (pumping solutions into the blood vessels) of freshly slaughtered animals. Some work has indeed been done along these lines. If, on the other hand, prolonged aging remains the best tenderizer, information on optimal storage conditions, to minimize losses by surface spoilage, should reduce ultimate cost to the consumer. Perhaps a day will come when those of slender means who desire tender steaks will not find themselves limited to hamburgers. In fact, the plebeian hamburger is no longer only for those of limited income. The "Do-It-Yourself" era which has popularized the backyard cook-out is creating fair competition between hamburgers and steaks.

Impact of Atomic Energy on the Physical and Chemical Sciences

*In the Long Run, the By-Products of Nuclear Science
May Be More Important to the Physical Sciences Than
the Direct Result of Initiating New Sources of Energy*

By JOHN VON NEUMANN

In opening the Alumni Day symposium (June 13, 1955) on the topic of "The Impact of Atomic Energy on the Physical and Chemical Sciences," Dr. von Neumann spoke extemporaneously, without benefit of prepared manuscript or extensive notes. The following article is a summary which reflects the essence of the address.

IN examining the impact of atomic energy on the physical and chemical sciences, it is well to begin by asking a few pertinent questions. For example, we may ask ourselves, "What situation are we in as a result of progress in nuclear science and the technology which made the large-scale release of atomic energy possible?" Certainly we should seek an answer to the question, "How can we evaluate properly the role of the new process of nuclear fission which modern physics has placed at our disposal?" Or, again, we might ask ourselves, "How has progress in nuclear physics affected the development of other, older, fields in the sciences?" Finally, recognizing that nuclear fission has placed the scientists in the position of co-operating closely with administrators and the military, we might well ask, "How must scientists and engineers adapt themselves to the many new situations which have come about by the development of the new nuclear technology?"

There is no denying that the process of nuclear fission has become most conspicuous by certain direct effects that it produced, particularly in the military sphere, but it is well to remember that the spectacular explosions that we all remember represent but part of the total effects of nuclear fission — one which may, in the long run, turn out to be the lesser part. There are many indirect, and not easily predicted, effects that also take place, and these are of enormous importance, even though they may not be, immediately, so spectacular.

In some sense, nuclear fission is not one of those developments in physics which arose logically and systematically in the course of progress. There was a great deal of accident and surprise in the process. Also, the history of physics provides hardly any parallel to the discovery of nuclear fission, either in the magnitude of the disruptive forces which have been unleashed, or in the magnitude of the social, economic, military, and cultural adjustments we must

make as a result, or finally in the rapidity with which all these effects evolved and made themselves felt. Man had no adequate warning, by which he might have prepared himself, systematically, to accept the full implications of the tremendous release of energy which comes about when matter is converted into work. Of course, we have devised and used other significant forms of energy in the past and, in a way, we might say that ultimately nearly all energy comes from atomic reactions of one kind or another. Nevertheless, scientists were not prepared to answer the myriads of questions that suddenly came to the forefront with the first nuclear explosion in 1945, and with its successors during the next decade, in their rapidly increasing sizes. Also, it begins to appear that the release of energy is not the most remarkable, or the most dangerous, manifestation of the nuclear reactions that we can now run on a massive scale. The production of radioactivity and of all sorts of nuclear transmutations may prove to be even more significant.

Uranium Concentrations

We tend to think of atomic energy in terms of uranium — especially uranium 235, which is present in various parts of the world. The concentrations of natural uranium, in the areas in which it is found, vary from a few per cent to a few parts in a million; the concentration of U^{235} in it is uniformly two-thirds of 1 per cent. The key to the entire development was U^{235} ; the other important fissionable materials, plutonium and U^{233} , can only be produced with the direct or indirect help of U^{235} . Now, the concentration of U^{235} in ordinary uranium is not controlled by any absolute and time-conserved law. Both ordinary uranium (U^{238}) and U^{235} undergo radioactive decay, and U^{235} decays faster than U^{238} . In a universe in which, as we believe, the heavy elements have been formed about 10 billion years ago, the concentration of the faster-decaying U^{235} has by now decreased to the above mentioned two-thirds of 1 per cent in ordinary uranium. If man and his technology had appeared on the scene several billion years earlier, the concentration of U^{235} would have been higher, and its separation easier. If man had appeared later — say 10 billion years later — the concentration of U^{235} would have been so low as to make it practically unusable. In this case, many of the opportunities, as well as the prob-

lems, which surround us now would have been postponed and transformed in a way that is hard to evaluate.

The process of fission itself is unusual, and this fact alone has presented scientists with a number of obstacles that are not normally encountered.

The chemical elements may be arranged systematically in a table according to their atomic weights. This arrangement is known as the "Periodic Table of Mendeleyev." The elements of middle atomic weight occupy the center of this periodic table and are the more stable ones. Elements of very small atomic weight, at one end of the periodic table, can usually be combined to produce the heavier medium elements, and they release energy in this process (because the medium elements are the stabler ones, as mentioned above). On the other hand, the elements of large atomic weight, at the opposite end of the periodic table, can be broken up into elements of medium weight, and they release energy in this break-up process (again, because the medium elements are the stabler ones). Thus, the light elements can be merged — fused — with a gain of energy, to form stabler heavier elements; and the heavy elements can be broken down — fissioned — with the release of energy again, to form stabler medium elements. These are the two energy-producing nuclear processes: the fusion of the lighter elements, and the fission of the heavier ones. (Actually, the element usually formed in fusion is Helium-4, an exceptionally stable light element, but I need not go into this now.)

Fission and Fusion

The fusion of the light elements was foreseen in detail for some considerable time. The fission of the heavy elements, known to be a possibility in principle, was, nevertheless, unsuspected as a practical matter prior to 1939. In fact, so little credence was given by physicists to the possibility of fission, that nuclear fission was discovered experimentally five years before it was recognized as such and the experiments correctly diagnosed. It was only after every other possibility of explaining the appearance of some unusual disintegration products of the bombardment of natural uranium by neutrons had failed to explain experimental observations — the difficulties were mainly connected with explaining the chemical properties of the nuclear fragments produced — that physicists came to the conclusion that fission had actually taken place.

After the developments of the early 1940's, which made it clear how enormously important uranium was to be in nuclear technology, geologists and others began an intensified search for uranium deposits. As a result, we now know that uranium is not so rare in the strata near the earth's surface as had formerly been thought. The greater than anticipated availability of uranium in itself served as a stimulus to further developments in nuclear technology. The underlying nuclear science has also developed at a very accelerated pace. We know today a great deal more about nuclear reactions in this area and in allied areas than one might have expected 15 years ago.

Indirect Benefits of Nuclear Science

The knowledge, resources, and instrumentalities which have come into being as the result of our study of nuclear fission and other atomic (or rather subatomic) phenomena are being put to good use in the study of many other physical processes. Perhaps this kind of by-product is even more important, in the long run, than all the direct knowledge we have gained from the study of the violent fission reactions by which nuclear matters are most popularly known.

The great developments of nuclear physics proceeded in the direction of investigating simple (light) elements and subnuclear particles. Thus, the direct impact of nuclear fission which takes place at the other (heavy) end of the periodic table is less significant than the indirect impact which comes from a better understanding of the nuclear forces and elementary particles in nature. Nuclear reactors which have been built in various parts of this country — and in various parts of the world — now make it possible to obtain an ample source of elementary particles and of all nuclear species — by transmutation — which were entirely beyond the scope of the boldest imagination of 15 years ago. The availability of ample sources of neutrons is especially important. This is indeed a great step forward because it is largely through the use of uncharged neutrons that we are now able to investigate the inner structure of nuclear particles and to perform the classical purpose of alchemy — massive transmutation of nuclear species, that is, of elements, into each other. Before this, we had only charged particles to use as projectiles in our efforts at smashing, transforming, or analyzing atoms. The use of such charged particles required very large energies, that is, very high voltages, for their acceleration; and charged particles could not be easily or well aimed to make hits at the deep core of atoms; that is, one had to make use of brute force methods in all these procedures as long as one was limited to the use of charged particles only. Now that there are ample supplies of uncharged neutrons which can penetrate the deepest recesses of an atomic nucleus with hardly any difficulty, physicists have been able to perform breakdowns, transformations, and structure studies with a much greater ease than was previously possible.

There is another important by-product of research in atomic physics. By means of techniques developed through nuclear science, and through the instrumentalities of nuclear technology, we now have the possibility of effecting many transmutations of elements. We are also able to make almost any element radioactive and, further, have a considerable choice of decay times as well. In this way, we have access to a wide range of radioactive properties. These may be used for examining the behavior of many physiological and industrial processes which could not be satisfactorily studied by other means. Studies of friction and wearing of metal parts, as in internal combustion engines, or the tracing of metabolic substances through the human body by means of radioactive tracer elements, as well as many other things in wide ranges of science and technology, may

be cited as examples of these new and very useful techniques.

There are still other interesting results flowing from the recent rapid advances in nuclear matters. Thus, for some time, but especially since the beginning of World War II, progress in physics has been stimulated by the fact that physicists had frequently worked together in teams, and that such teams often included men from other natural sciences — one field of science cross-fertilizing another. Some of this teamwork was made necessary by the need to bring several different disciplines to bear on a single large problem. But frequently such teamwork was forced upon scientists because the size and cost of the equipment and apparatus required for modern research made group effort essential. While we have certainly benefited from such co-operative ventures, the cost and complexity of modern research equipment has posed very serious problems, often very unaccustomed to the workers in these areas.

Cost of Research

Thus, large particle accelerators cost millions of dollars and years to construct, so that we have very few such instruments, as compared to, say, microscopes. Co-operation is needed in the capitalization, design, construction, use, and maintenance of such large research apparatus. In the construction of a large accelerator, one is faced with the problem of whether it is possible to justify a large expenditure of capital, which, in addition, will only bear fruit half a decade later, at which time both the problems and the available methods may have shifted. Thus one has to ask whether science will not have progressed so far by the time the instrument has been built that it might be obsolete and, therefore, a poor investment. The need for raising funds for research facilities certainly is not new. But the need for underwriting and obtaining capital funds on as large a scale as is now necessary in some areas for scientific research of significance, and to plan for long periods ahead of time, is new to scientists as well as administrators of educational and scientific projects.

In this regard, the developments in nuclear science have had an enormous additional effect on all of us who are involved in these fields. We have acquired much more routine in evaluating and organizing team-work, in assessing the desirability of large and long-range material commitments, and so on.

So far, I have discussed only the effect of nuclear reactions on the professional work of the physicists; but other groups have been influenced with equal intensity. We all know that nuclear fission has already revolutionized many military areas of operation and that it has necessitated tremendous effort and expense to build up and develop a military organization which is able to meet and overcome a modern atomic-powered military machine.

However, even greater than its impact on the military organization is the impact which it has had in changing the thinking and lives of the civilian population. Nuclear science has, in fact, affected greatly our way of thinking about our civilization.

Scientists who made the control and release of atomic energy possible were among the first to feel the changes which this astounding development entailed. They are no longer free to carry on their research in isolated "ivory towers" completely free from the need for accounting for the possible uses of their discoveries. They are a very decisive part of our atomic age civilization. For the first time, they are, of necessity, concerned with problems of security and national welfare on a large scale and in a way never before encountered by them. They have to think and be guided in many operations much as military men had to think and be guided in former periods; and they are not accustomed to what seems to them to be undue regimentation. They need to develop, therefore, new habits and techniques. They now have new and vast responsibilities for which they were in no way prepared. Like every radical and unexpected adaptation which, in addition, has to be carried out in a hurry, it is painful, disconcerting, and accompanied by violent emotional fluctuations. But, by and large, the adaptation takes place with an admirable speed, especially if one considers all the factors that intervene and all the difficulties I have tried to indicate.

Scientists in Other Roles

Pure science is often abstruse, and yet scientists may today be called upon to fill positions of considerable responsibility in fields outside their professional area of competence. They may become administrators, they may have to influence public opinion; all in all, they have great social responsibilities. We must expect that other phases of abstract thinking, other than physics and chemistry, may also ultimately evolve into similar roles; that is, they may assume military, economic, and more generally social roles of equally tempting, compelling, and dangerous aspect. Science and scientists have become affected with the public interest in a new way and in orders of magnitude that were never imagined a half century ago. Scientists, and physicists in particular, have had to undergo a new kind of adjustment and discipline. We must develop procedures and institutions to meet the new adjustments with which we are confronted. The adjustment will be painful in the future, as it has been troublesome and painful in the past. There is no easy way out of this situation, but with intelligence and good will some satisfactory way can and must be found.

The social responsibility of scientists has been vastly increased since the first chain reaction was set off in Chicago in 1942. The responsibility of scientists has grown especially in the field of international relations. We must recognize that the education of the scientist of the future is not complete as long as it is limited to his technical professional subjects; he must know something of history, law, economics, government, and public opinion. Our task is to make the adjustment to new conditions as satisfactory as possible. We must do this intelligently and promptly. But we must do it without endangering the foundations upon which the sciences themselves rest and thrive.

Radar and the Weather

The Development of Microwave Radar Technique Provides a New Tool to Help Close the Gaps in Our Knowledge of Rain Clouds, Thunderstorms, and Tornadoes

By HENRY G. HOUGHTON

THE only contact most persons have with meteorology is through the daily weather forecast, and it is not surprising that meteorology is so often considered as a synonym of weather forecasting. Actually, meteorology is the science of the atmosphere, and forecasting is only one area of applied meteorology. The atmosphere is perhaps the most important part of our physical environment. Food supplies and that *sine qua non* of civilization, ample fresh water, depend critically on weather and climate. Atmospheric pollution, that bane of industrialization, is a meteorological problem. Proper consideration of climatic factors can avoid a repetition of the unhappy results of the industrialization of the Los Angeles area.

I need not speak of the tremendous losses of life and property due to hurricanes, tornadoes, floods, droughts, and the like, but I should point out that the consequences of such catastrophies have continued, and will continue, to increase with enlargement of population density. In less dramatic ways our personal lives and fortunes are almost daily affected by the weather. In a larger sense the peaceful progress of the world will depend, in growing measure, on the more effective utilization and conservation of our natural resources. Weather and climate will be a determining factor in efforts along these lines.

Mitigation of the effects of severe storms, and efforts to maximize the beneficial effects of climate, must be based on a thorough knowledge of the be-

havior of the atmosphere. In view of its importance the slow progress of meteorology is perhaps surprising. There are a number of reasons for this. Few industries depend critically on the weather and hence private enterprise has not played an important role. On the scale required, the collection of data is a tremendous undertaking, and can be accomplished only by national governments. Poorer countries have lagged behind and have left unexplored vast reaches of the atmosphere, but weather does not recognize national boundaries. Plagued by the lack of adequate data and by penurious support of government, meteorological research moves forward with great difficulty.

In World War II, the critical importance of weather to military operations focused the attention of the military departments on meteorological research, and for the first time, fairly substantial funds were provided. Fortunately, the military services have been foresighted enough to continue this support. The war also gave impetus to the expansion and improvement of the world-wide collection of weather data. Armed with these resources, meteorological research has made rapid strides in the last few years. For the first time we are now able to break away from the qualitative and empirical approach and embark on truly quantitative investigations. In spite of this heartening progress, the effort is still small compared to the potential benefits.

In the absence of a meteorological industry, the role of the Department of Meteorology at the Institute differs from that of most of the other courses.

Professor Houghton's timely article represents several innovations. It deals authoritatively with recent developments in several fields of science and represents a blending of progress in the fields of electronics and meteorology. His article also represents the text of the first of three papers on "Research Progress at M.I.T." presented before 350 Alumni officers at a conference held at M.I.T. on September 9 and 10. It seems not unlikely that similar conferences may provide a new technique by which *The Review* can report M.I.T. progress to its readers.

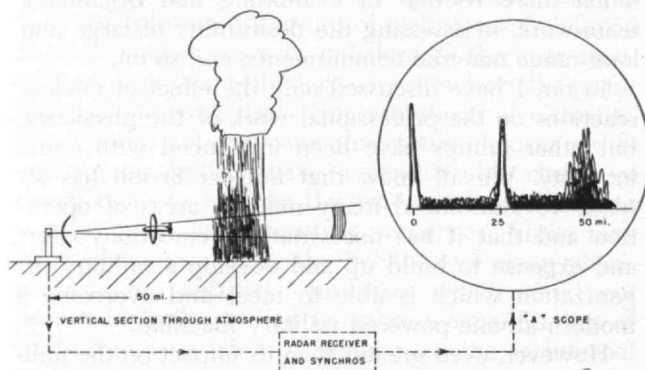


Fig. 1. The simplest type of radar presentation is that illustrated above, in which horizontal distance represents range or distance and vertical distance represents intensity of reflected signal.

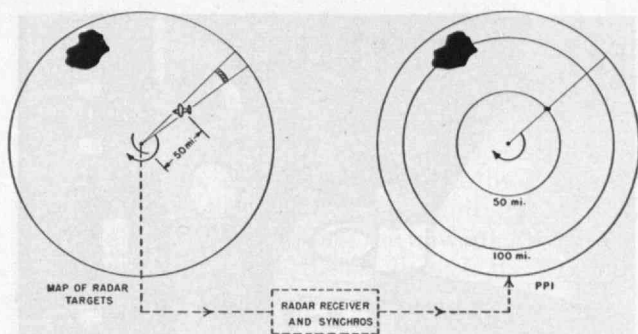


Fig. 2. Plan position indicator type of radar presentation portrays a radial map of the region around the radar station in the center.

Research is the pressing need and our efforts are largely devoted to training research workers and to carrying on a broad research program: these are activities that mutually support each other. To permit us to concentrate on this program we have recently decided to drop our undergraduate program. Undergraduates who are interested in meteorology will be advised to pursue Courses in Electrical Engineering, Physics, or Mathematics in which they can take some meteorology subjects as electives and acquire a sound scientific and mathematical background for graduate training in meteorology.

Meteorology is still largely a governmental monopoly. The agencies involved (such as the Weather Bureau) are primarily operating organizations, and for them research is a secondary function. As the first, and one of the few, departments of meteorology in the country, it is our responsibility to lead the research effort and to provide highly trained graduates.

Time does not permit the telling of something about each of our seven major research programs, but one of the most promising developments is so significant that it must be mentioned here. Through brilliant theoretical research, coupled with a painstaking examination of world-wide weather data extending into the stratosphere, it now appears that one of our research groups is in a fair way to setting up a mathematical model of the fundamental circulation system of the entire atmosphere. This model can be put on M.I.T.'s great digital computer, Whirlwind I, and thus give us a working model of the atmosphere in quantitative numerical form. If successful — and successful it will surely be sooner or later — it will not only provide us with extended-range, weather forecasts, but it opens up even more fascinating vistas. With such complete understanding of the mechanism, it is possible that the way will be opened to weather control — and the extent and design of such control can be tested on the mathematical model in Whirlwind I. This is a striking illustration of the quantitative approach to meteorology that is now emerging. It is important to note that such research can be carried out only because of the unique combination of facilities and skills here at the Institute.

One of the striking features of meteorology is the vast range of scale of the phenomena we study. I have just alluded to the world-wide circulation patterns with a scale of thousands of miles. Near the other end of the scale, we are concerned with the

deposition of water molecules to form snowflakes. There are equally important phenomena at all intermediate sizes. Because of the tremendous cost, the standard meteorological observational stations are spaced not much closer than 100 to several hundred miles apart. This means that many important phenomena, such as tornadoes, thunderstorms, and the details of rain clouds, slip through this coarse mesh undetected.

The development of microwave radar during World War II has given us a new tool to close these gaps and I have chosen to tell you about our work in this field because of its importance, the example it gives of the more complex gadgets now being used, and because it is readily illustrated. Weather echoes were first discovered in the early operational uses of microwave radar and were called "weather clutter" because they tended to obscure aircraft targets. A few progressive military meteorologists used radar to track showers during the war but little was known of the full potentialities and limitations of this new weather instrument. Shortly after the end of the war, we entered into a contract with the Signal Corps to explore the uses of radar in weather research. This work is still continuing and much has been learned, only a little of which can be mentioned here.

Radar Operation

Most readers of The Review know how radar works. A short pulse of radio energy generated by a transmitter is beamed toward the target. A little of the energy striking the target is reflected back to the source where it is detected by a radar receiver. The time taken for the pulse to go from transmitter to target and back is a measure of the distance between the radar station and the target. The azimuth and elevation of the target is given by the orientation of the radar antenna or "dish." The weather targets are raindrops and snowflakes — cloud drops are usually too small to be "seen." The multitude of drops in the radar beam are in relative motion and the return signal has a characteristic scintillation. The illustration in Fig. 1 shows a schematic of the simplest type of radar presentation — the "A" scope on which horizontal distance represents range and the vertical distance is a measure of the intensity

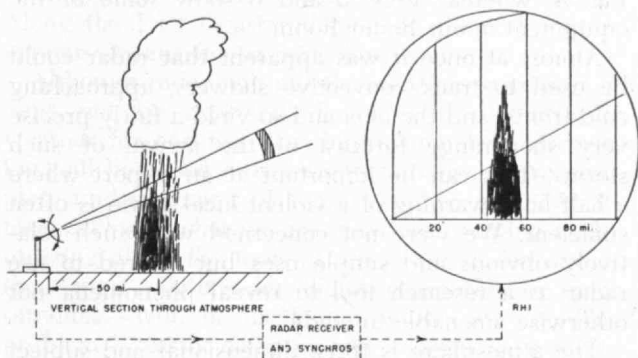
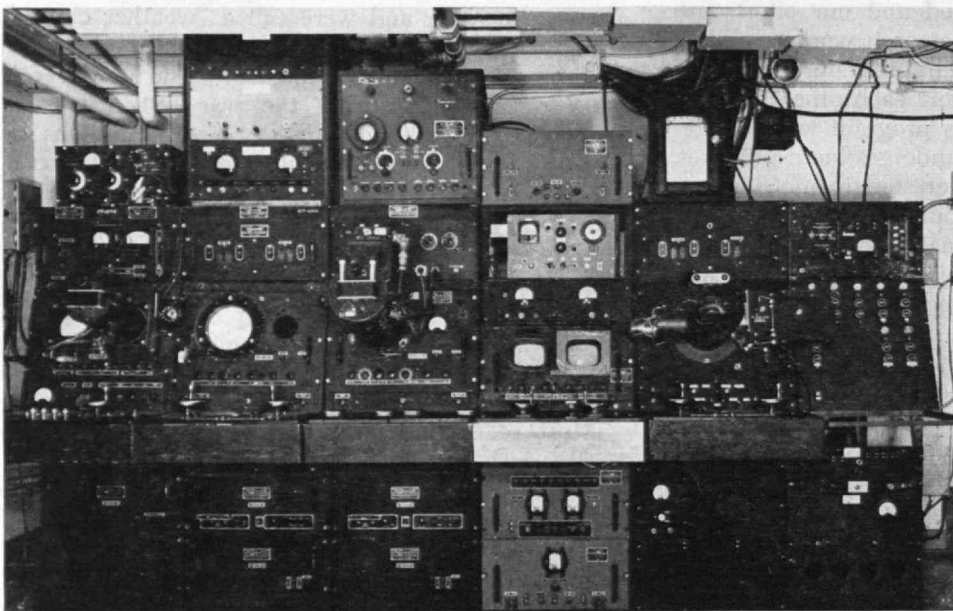
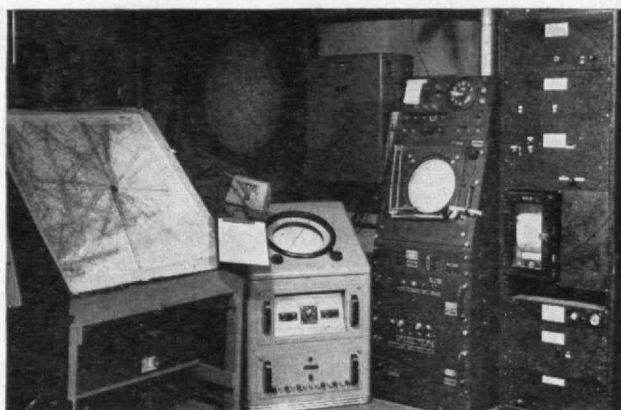
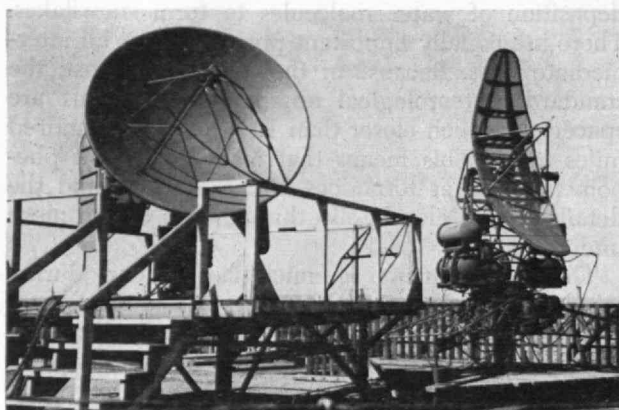


Fig. 3. Range-height presentation on radar screen shows the distance and height of reflecting objects in a fixed azimuthal direction.



Above, left: Fig. 4. Two radar antennae on the roof of Building 24 in which the Department of Meteorology is located. The dish antenna on the left is used on plan-position indicator systems, whereas the antenna at right is used for range-height determinations. Left: Fig. 5. Radar equipment and control panels in the Radar Room of the Department of Meteorology at M.I.T. Above, right: Fig. 6. Cathode-ray equipment on which radar images are displayed.

of the signal. Note the difference between the large and somewhat fuzzy signal returned from the shower and the sharp, small signal reflected from the airplane. The most common type of presentation—the plan-position indicator which is essentially a horizontal map with the radar at the center—is shown in Fig. 2. The range-height presentation in which the radar beam is scanned up and down in a vertical plane at a fixed azimuth is illustrated in Fig. 3. Two of the radar antennae on the roof of Building 24 here at the Institute are illustrated in Fig. 4, whereas Figs. 5 and 6 show some of the equipment in our Radar Room.

Almost at once it was apparent that radar could be used to track convective showers, approaching cold fronts, and the like, and so yield a fairly precise very short-range forecast of the arrival of such storms. This can be important at an airport where a half-hour warning of a violent local storm is often sufficient. We were not concerned with such relatively obvious and simple uses but desired to use radar as a research tool to reveal phenomena not otherwise amenable to study.

The atmosphere is three dimensional and subject to relatively rapid time variations. Conventional meteorological observations give us an instantaneous picture at a discrete number of points. As previously

pointed out, smaller-scale phenomena are imperfectly revealed and their variations in time are impossible to see because the lifetime of the phenomenon is often less than the interval between observations. Radar, however, gives us a nearly continuous picture with excellent detail. On the other hand its range is limited by the curvature of the earth to the order of 200 miles and it “sees” only precipitation. The latter limitation is not too serious because precipitation accompanies almost all interesting weather phenomena. As with any new instrument, new concepts and methods must be developed to use it most effectively.

There are two characteristic types of precipitation: these we call shower and stratiform types. Showers range in intensity up to thunderstorms and are characterized by large vertical extent of the cloud, high vertical air speeds, heavy rain, small horizontal extent, and relatively short lifetimes. Stratiform precipitation is that characteristic of our northeast storms in which the rain or snowfall is more moderate, and the vertical air velocities small, but precipitation covers very large areas and may last for a day or more.

Radar techniques have made it possible to study the life history of such showers. Their total lifetime is of the order of one hour. The echo first appears

at an intermediate height and then grows both up and down. From these observations, and related theoretical studies, we now know that the genesis of the rain drops occurs in the lower part of the cloud. These small drops are carried up by the strong vertical air motion, growing all the time by collisions with much smaller cloud drops, until they finally have a fall velocity exceeding the upward air velocity whereupon they begin their fall back through the cloud toward the earth.

A series of range-height oscilloscope photographs of stratiform precipitation is shown in Fig. 7. Note the rapid variation in structure. The tuft-like structure shown here is characteristic of most stratiform precipitation. What is shown here is snow which forms in rather small generating cells of convective origin. That it is snow is indicated by the sharp slope of the streamers, a result of wind shear. At the melting level the radar reflection is enhanced forming the so-called "bright band." The radar reflectivity of a particle depends on the sixth power of its radius and on whether it is ice or water. When the snowflakes begin to melt they are covered with water but they are still of snowflake size. The thin film of water makes them act as large water drops which reflect much better than dry ice. As the melting proceeds, the particles collapse to much smaller, faster falling water drops which consequently have a lower reflectivity.

From extensive studies we now know that stratiform precipitation starts as snow at moderate heights of from about 20,000 to 30,000 feet. As the snow falls it grows by sublimation of the vapor — a process that is greatly enhanced when it passes through a supercooled water cloud. Just above the melting level the individual snow crystals tend to stick together to form clumps or the usual snowflakes. After melting into rain drops, further growth may occur by collisions with drops in lower clouds.

Radar Watches Storms

A number of examples of radar oscilloscope photographs have been shown and we have photographed more in motion pictures. Valuable though these pictures are, they do not give the quantitative information we require for our research. We measure the returned signal with special instruments and correlate such measurements with the rainfall. It now appears that the rainfall over an area can be determined by radar in more detail and with comparable accuracy to that of conventional rain-gauge networks.

I mentioned previously that the fluctuating or scintillating character of radar weather echoes is due to the relative motions of the multitude of precipitation particles. We have devised special instrumentation to determine the frequency spectrum of these fluctuations. Careful analysis with the aid of the electronic autocorrelator and Whirlwind I computer have enabled us to interpret these fluctuations in terms of the turbulence in the free atmosphere.

Recently we have been carrying out interesting experiments with a variable polarization radar. This

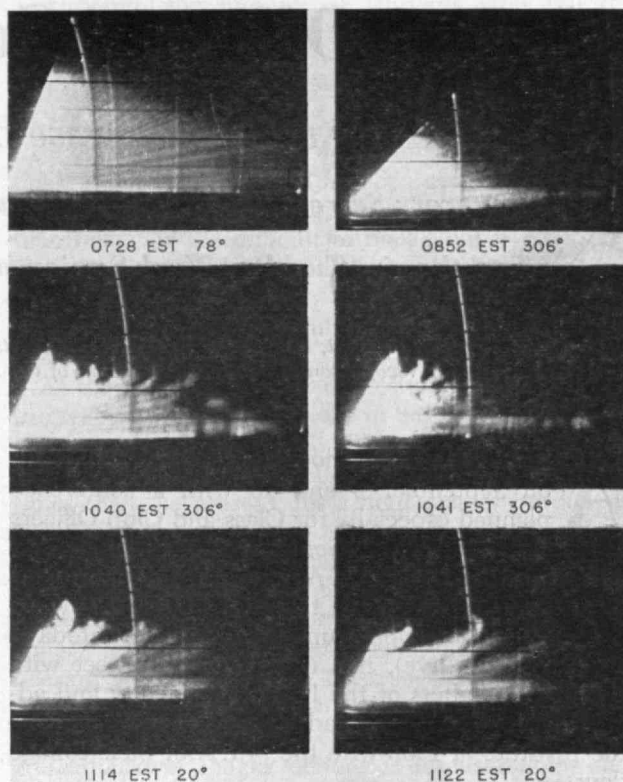


Fig. 7. A series of range-height oscillograms of stratiform precipitation.

shows promise of giving us information on the orientation and shape of snow crystals and for distinguishing between snow and rain. These studies are also valuable to those concerned with air defense radar who wish to reduce weather echoes, and we are collaborating closely with Project Lincoln on this aspect of the work.

As you will have noted, our utilization of radar is aimed at gaining a better understanding of those atmospheric processes that it reveals so well. However, we are not unaware of, nor are we uninterested in, the more operational uses of weather radar. Because of its limited range, radar networks are being established in many sections of the country. In this way the gaps in our conventional network can be filled in and forecasting will be improved thereby. As I have emphasized, radar is most valuable for very short-range forecasting. This means that it will be most immediately useful for giving warnings of tornadoes and severe thunderstorms. Along the East Coast radar offers a useful supplementary means for tracking hurricanes.

Although radar will aid the weather forecaster, it must not be expected that it will revolutionize weather forecasting. Real improvement in forecasting will be based only on our gaining a more complete understanding of the atmosphere in all of its facets. This is what we are so earnestly trying to do, utilizing all of the tools at our disposal. No one of these tools — be it radar, digital computers, or space satellites — will, of itself, supply the answer. The problem is vastly complex and we still have far to go but we are particularly optimistic at this time as we see many of the pieces of the jigsaw puzzle falling neatly into place.

Alumni Officers' Conference

*First Event of Its Kind Brings 350 Class Officers,
Honorary Secretaries, and Educational Counselors
Together for Two-Day Work Session at the Institute*

This year's President, Dwight C. Arnold, '27, presents gavel to Hugh S. Ferguson, '23, in recognition of service as President of the Association for 1954-1955.



All photos by M.I.T. Photo Service

ACTIVITIES of the school year opened at M.I.T. on September 9 and 10 with a conference planned especially for Class and Club Officers as well as for Honorary Secretaries, and members of the Educational Council. Approximately 350 Alumni attended this conference; they lived at Baker House (where they had opportunity to learn how today's Tech students live), had opportunity to meet with about 50 members of the Institute's Faculty and administrative staff, and had opportunity to compare the Institute of 1955 with the M.I.T. of their college days.

To most out-of-town Alumni, the M.I.T. Chapel and Kresge Auditorium — where conference sessions were held — were completely new. Some of those who remembered the Institute as it was when they were students had their first opportunity of seeing the Charles Hayden Memorial Library, the Metals Processing Laboratory, the Supersonic Wind Tunnel, the Chemical Engineering Building, Building 24 (used as a center of radar activity during World War II), the Sloan Building, and the Dorrance Laboratories of Biology and Food Technology. All could see excavations where the Karl Taylor Compton Laboratories of Physical Science are now under construction. Athletic and housing facilities, such as the Rockwell Cage, Baker House, Burton House, and the community for married students — under the names of Westgate and Westgate West — were pleasant innovations to others.

But to those who have not been able to follow closely the progress in Cambridge during the past decade or so, the changes in educational techniques, the substantial increase in research as a means of education at the forefront of technology, the improved facilities for student life, and the many tangible manifestations of the Administration's success in training the "whole man" probably represented the most impressive deviations from the Institute of the days prior to World War II.

Of course, it was impossible to examine in detail all the changes that have recently occurred at the Institute, especially since the student body and Faculty had not yet gathered for the beginning of academic events. But there was ample opportunity for those in attendance to glimpse the more important innovations, and having seen, conference delegates could return to their communities with a better concept of the M.I.T. of today. Older Alumni who cannot shake the idea that "Tech is hell" certainly must

have left the conference with a distinctly improved impression of the latter place of abode.

President of the Alumni Association for the year 1955–1956, Dwight C. Arnold, '27, served as master of ceremonies and opened the conference with words of welcome. Speaking in the Kresge Auditorium on Friday morning, September 9, Mr. Arnold said:

It is my great privilege to welcome you to this First Alumni Officers' Conference on behalf of the Alumni Association of M.I.T. As the late Karl T. Compton, chairman of the M.I.T. Corporation, stated in his opening remarks at President Killian's inauguration on April 2, 1949: "By your presence you honor us. Your presence and friendly interest are more than a symbol of our common faith in the great values of scientific progress and sound education; they are a positive source of encouragement and inspiration to this institution. . . ."

To this I would like to add that the officers of your Association, and those on the Faculty and Administration who have helped us prepare for this conference are delighted that so many of you have found it possible to join us for this day and a half at M.I.T.

Any Alumni close to M.I.T. and its problems have confidence and faith in the social importance of the Institute's objectives; have faith in the men who are responsible for its administration and performance; and have confidence that they will have the backing required in each step forward. But the M.I.T. of 1955 is a changing institution, and your Executive Committee felt that the officers of our Association would appreciate this opportunity to see and hear firsthand some of the changes that have taken place since their graduation, but more particularly, the changes which are now going on and being contemplated.

The theme of President Killian's inaugural address six years ago was the three imperatives which the Institute at that time faced: first, it must continue the creative contributions which science and engineering can make to modern life; second, it must educate for professional and social responsibility; thirdly, we must maintain the freedom and independence of our institutions. This is basically the theme which your committee has followed in setting up the program.

Educational Progress at M.I.T.

Mr. Arnold then introduced George R. Harrison, Dean of the School of Science, who conducted the remaining morning program on "Educational Progress at M.I.T."

In opening the program on "Educational Progress at M.I.T.," Dean Harrison reminded his audience that, as a result of the substantial postwar increase in population, the United States faces a critical and

necessary expansion in educational facilities for the next decade or two. Keeping this in mind, it is evident that M.I.T. too must grow if it is to maintain its present relative position among higher educational institutions. Although the need for expanding educational facilities is generally recognized, not yet solved are the subsidiary questions of how to maintain quality of product, and how M.I.T. activities must be related to future needs.

Since about 1930 the enrollment at the Institute has been controlled, said Dean Harrison, and this practice has made it possible to keep M.I.T. facilities reasonably well balanced according to the demands that are made on them. At the present time the M.I.T. student body numbers 3,600 undergraduates, and 2,100 graduate students, or a total of 5,700 students in all. This enrollment, larger than at any other time in the Institute's history, places a heavy burden on Institute personnel and facilities, particularly in the Courses of Electrical Engineering and Physics. Prior to World War II there were about 150 students per year studying physics; today that number is about 500 students. In addition to these students who pursue the professional course, the Department of Physics is called upon to offer service courses in physics to all freshman and sophomore students. Similarly, there has been an increase of 30 per cent in the enrollment of the Department of Mathematics since the beginning of World War II, and about the same increase in the Department of Chemistry. Nevertheless, in Civil Engineering, Aeronautical Engineering, City Planning, Meteorology, Chemistry, Food Technology, Geology, and Biology, Technology could train more students.

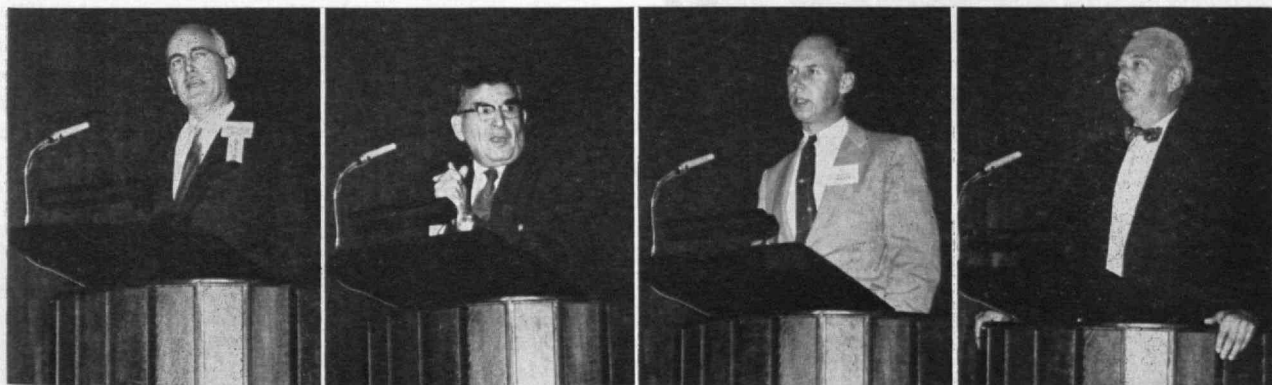
All estimates of college enrollment predict a doubling of enrollment during the next decade. In 1930 about 2,000,000 were in colleges; by 1942 this figure had risen to 3,000,000; and today the college enrollment is about 4,000,000. The Administration is keenly aware of the Institute's educational responsibilities and is prepared to help M.I.T. to grow as the national college enrollment grows. But even more important than growth in size is the Institute's special responsibility to maintain its program of education at a level of high quality. This can be assured only if those who come to the Institute are properly selected and have the foundation and training to benefit from M.I.T. instruction.

Although the number of students who fail for scholastic reasons is not large, nevertheless, every such person represents a waste of effort. The effect is harmful to the student who flunks as well as to M.I.T., but we cannot afford to overlook the injustice done to some other applicant who might have made a better record had he been given opportunity to enter Technology. Admittedly predictions of human behavior are difficult to make, but if Honorary Secretaries — and others responsible for admitting students to the Institute — can improve their procedure of selection, the number of failures can be still further reduced.

At the present time, graduates of the Institute are in great demand for positions in industry, in the government, or in education. They will undoubtedly continue to be in demand, even in less prosperous times than the present, for a high quality product is always most desired.

Dean Harrison also reminded his audience that technical education continually becomes more demanding. It now requires five or six years at the college level to train a person competent to do engineering work; it takes at least seven years to train a competent scientist. The educational process cannot be hurried. Yet the trend to extend professional education over longer periods is unmistakable, and accounts for the recent acceleration without sacrifice of quality in graduate study. In the future it is not unlikely that graduate work will be as necessary, and will take as much time, as is now required in undergraduate studies. When the importance of first-class personnel is considered, the seven or eight years needed to train a leader is hardly much of a sacrifice from the national point of view.

The Institute's role in supplying competent scientists and engineers is a highly creditable one. Of approximately 2,000 who receive doctorates in physical sciences in the United States each year, roughly 8 per cent receive their training at M.I.T. The Institute also trains about 3 per cent of those who receive Ph.D. degrees in chemistry each year. In mathematics, the demand for those with doctorates is greater than in any other field of physical science. Again, M.I.T. trains about 3 per cent of the national total. But it is estimated that 7,000 Ph.D.'s will be needed in mathematics in the next decade, and this need is not now being met. Similar situations exist



Participants in the Friday morning session on "Educational Progress at M.I.T." were (left to right): George R. Harrison, Dean of the School of Science; Nathaniel H. Frank, '23, Head of the Department of Physics; John E. Arnold, '40, Associate Professor of Mechanical Engineering; and John E. Burchard, '23, Dean of the School of Humanities and Social Studies.

in other fields of science, as well as in engineering. Still, the need continues to exceed this supply.

The Institute faces a number of significant limitations in maintaining quality of instruction while simultaneously educating larger numbers of students. One of these is that of physical space. The Karl Taylor Compton Laboratories in the physical sciences will remedy some of the current limitations of space, but certainly not all. Moreover, the Compton Laboratories will serve primarily as a replacement for outmoded and inadequate existing facilities; for the most part the new laboratories do not provide for new facilities. Another limitation is that of personnel. Although the Institute has an active, alert, enthusiastic, and energetic staff, the teaching load it is required to handle is reaching the saturation point; the load cannot be greatly increased without deleterious effects.

When all significant factors have been taken into account, said Dean Harrison, it appears that the Institute must concentrate primarily on maintaining a high quality of instruction at all levels of education in science, engineering, and architecture. The problem of growth and expansion, however important, must be a secondary consideration.

The remaining speakers of the morning session, said Dean Harrison, would elaborate on his general remarks, each in his own way, emphasizing activities in a particular department. Following Dean Harrison as speaker in the morning program was Nathaniel H. Frank, '23, Head of the Department of Physics, who has been at M.I.T. at least 35 years. Dr. Harrison recalled that Professor Frank heads the largest Department of Physics in the United States; he is an outstanding teacher of physics in his own right, and understands thoroughly the relation between research and instruction.

Undergraduate Laboratory Instruction

Speaking on "Improvements in Undergraduate Laboratory Instruction" Professor Frank stated his

belief that the objectives of any laboratory are to: (1) enable a student to become acquainted with laboratory techniques and physical equipment; (2) permit verification of physical principles and formulas derived from these principles; (3) provide insight into the way in which new quantitative factual data are uncovered.

Professor Frank believes that one cannot get a real basis and feeling for any one of the great principles of physics from any single experiment — or even from a few experiments, no matter how good they may be. Principles are synthesized from a multiplicity of experimental results; sometimes of widely different character; they are derived from many concepts, some of which are quite subtle and sophisticated. Nevertheless, specific information concerning physical facts can be obtained in the laboratory, and there are many cases where a single good experiment suffices to provide such information.

In addition to these aims which apply to any laboratory in science or engineering, Professor Frank stated his belief that laboratory instruction in physics should demonstrate the further objectives to: (4) develop a feeling for orders of magnitude of physical quantities in real experiments, to generate intuitive judgment as to the significant and secondary pertinence of different variables, and to learn how to devise ways and means of minimizing and correcting for unwanted and extraneous effects in a given experiment; (5) develop, with the help of objective (4), a proper understanding of the inherent approximate nature of physical measurements, and an appreciation of the limits of validity of mathematical solutions of academic problems of physics, no matter how erudite the latter may be, and finally; (6) introduce some new area of physical concepts and experience.

These aims require inspired teaching and experiments designed so as not to present an oversimplified situation in which real physical factors have been concealed. The attainment of this objective, set forth in item (4), is essential in combating the evils arising from exclusive concentration on "book" problems, independent of the level of analytic difficulty of the latter.

If all of the above objectives are to be attained, Professor Frank believes one must forego attempts to obtain strict correlation between the laboratory



Speakers on "Research Progress at M.I.T." were (top left): Leonard A. Gould, '48, Assistant Professor of Electrical Engineering; (lower left): C. Richard Soderberg, '20, Dean of the School of Engineering [seated], and Henry G. Houghton, '27, Head of the Department of Meteorology; and (right): Thomas H. Pigford, '48, Associate Professor of Nuclear Engineering.



and lecture material. It should be one of the goals of the laboratories to devise significant laboratory experiments which provide the student with a first acquaintance with some area of physics. In addition, there should be an accompanying intellectual challenge of learning something new by trying to extract it from an individual experimental experience, instead of having it presented as an authoritative dictum by either the text or the lecturer. This item can become of utmost importance and perhaps should be the ultimate focal point of laboratory objectives. From this can emerge an appreciation of the enormous complexity of real physical situations, the equally great simplification which such situations require if theory is to be applied to them, and the reasons why this is a healthy state of affairs and not one to be deprecated.

Professor Frank emphasized his belief that under no condition must the laboratory be regarded as a peripheral segment of the physics course; it is fatal to education to regard laboratory work as routine, and of no special significance in the learning process. We must remember that some individuals derive great satisfaction — and hence learn best — from experiments; others are stimulated best by mathematical analysis and the aesthetic satisfaction derived therefrom; a few derive equal satisfaction from both processes. Proper balance between the laboratory effort and the rest of the course is essential to obtain optimum effectiveness. Professor Frank stated that no laboratory experiment should allow puttering around, without requiring a sharp and nonsimple reasoning process, whether the experiment is precise, or of limited precision, or even qualitative.

With such a statement of aims for the laboratory work, Professor Frank recounted recent experience of the Department of Physics in devising a group of experiments for freshmen and sophomores. Such students are required to do but eight or 10 laboratory experiments each term — although a larger number is permissible for those having special interests and abilities — but each experiment is designed to stimulate the student's intellect and present a challenge to his abilities. Whenever possible, students who have a particular experiment in which they are interested, are permitted to perform it, provided it is set up so as to make a real contribution to their understanding of physical processes and does not entail time unwisely spent in the laboratory.

The close interrelationship between research and education at M.I.T. makes it possible for laboratory experiments to have real value. In some instances experiments that are first performed in research laboratories are simplified and refined to be capable of accomplishment by upper classmen in the physics courses; later, further refinements may make the experiment suitable for use by the freshmen or sophomores. In some cases, students are permitted to undertake laboratory work in one of the research laboratories around the Institute.

The instructors are enthusiastic about the current program in laboratory physics. Like the students, they feel the program is a real one worthy of their fullest support because it represents a challenge. The program is relatively new and is still undergoing

change. But on the basis of what experience has been obtained thus far, the results obtained are highly encouraging, said Professor Frank.

New Departures in Education

Dean Harrison next introduced John E. Arnold, '40, Associate Professor of Mechanical Engineering, as a member of the Institute's Faculty who "stretches the student's mind and imagination." Professor Arnold took his bachelor's degree in psychology and subsequently took his S.M. degree in mechanical engineering at M.I.T.

Speaking on "New Departures in Education" Professor Arnold stated that since man first emerged from his cave in prehistoric times, he began to classify his responses and to make use of those practices which he found to be successful. His first attempts at classification were feeble. His early successes were based on demonstrations; later he progressed to the use of abstractions. He began to modify and change the patterns he found were successful, and to improve upon them; he also developed a critical attitude which facilitated his progress. Likewise, an effort is made to instill in Technology students a desire to inquire, to doubt, and to investigate, and this objective is approached from several different points of view. A course in Creative Engineering in the Department of Mechanical Engineering is given with this objective.

In a sense, it might be said that "creative engineering" is a term involving redundancy, for engineering should be creative. But some engineering, unfortunately, is not creative, and certainly not everything creative is engineering. What Professor Arnold means by joining these two words together implies a welding of psychology and engineering.

How does it happen that a course of instruction at M.I.T. is a combination of psychology and engineering? The outcome is largely because Professor Arnold first became interested in psychology and later pursued training in mechanical engineering. His first assignment at M.I.T., about a decade ago, was to teach Machine Design. This course was originally typical of such courses, and the student was expected to come up with a single proper solution that could be readily checked by the instructor. Although the course was a good one, it was not presented in the manner in which students would encounter problems in their professional engineering work. Because too much emphasis was placed on analysis the problems given were not like those encountered in real life. Accordingly, the course was changed to emphasize the aspect of synthesis, rather than analysis, and the evaluation of the problem became an important part of the situation confronting the student.

When such an approach is tried, it becomes clear that many problems of a nonanalytical character assume considerable importance, and that there may be many solutions to a problem, all equally valid, and requiring the student's attention. In altering the course to emphasize the need for judgment and synthesis as well as analysis, two important pedagogical problems immediately arose. One of these was to determine how to develop new ideas, and how to stim-

ulate initiation and inventiveness or creativeness on the part of the student. The other problem was to consider the solution of a problem in terms of man's characteristic responses in a given environment.

The course in Creative Engineering, as currently given by Professor Arnold, might be considered as involving some aspects of the psychology of invention as well as on human engineering. The work in the course on Creative Engineering is based on four hypotheses. The first of these is that people are born with a certain degree of creative capacity which can be developed. The second hypothesis is that innate creative capacity is independent of other abilities which a person may have, and which, therefore, should be capable of independent development. The third hypothesis is that the potential creative abilities of a person can be developed by study and training. The creative process must be properly oriented in time, and does not end until a useful result has been achieved. Finally, the fourth hypothesis is that the ability to analyze, synthesize, and critically judge and evaluate a situation makes its contribution to the creative process.

One may well ask how students are to be instilled with the creative urge. In a discussion of the ideas of semantics and psychology, it is important to ask questions — properly — as well as to be able to answer them once they are formulated. We do not wish to precondition the mind of a person in the way in which a question is asked; in other words, said Professor Arnold, the course should be devoid of "loaded" questions. We wish also to emphasize the importance of the individual as the only creative tool.

The course in Creative Engineering is given through the use of case studies. The student is given a problem — broad in scope — and he is required to make a study of his problem and to write a report of his finding which is then judged by a jury outside of the Institute. The work of the course is also conducted by means of seminars. The evaluation and judgment which the student gives to his problem is regarded as of extreme importance; the assumptions he uses must be examined to see whether they are valid; they must be supported, and any solution which is proposed must be in accordance with these assumptions. The student's solution must also be based on common sense, and it must be economically, as well as technically, feasible.

Eventually it is hoped that the course may lead to a program in the training of comprehensive designers. Such an objective must be nourished by very broad concepts on an international basis. Of course, the successful designer must be able to use the materials of engineering in a proper way. But he must also know the environment in which his product is to be used; the use to which it is to be put; how it is to be made, machined, and sold; how it satisfies the needs of man — or other ultimate user. The comprehensive designer must know something of the several processes of communication systems — aural, visual, and written. He must be able to balance his ability to analyze, to synthesize, and to judge. In short, he must be able to use and further develop the creative process. In this objective the course in Creative Engineering represents a new departure in education.

Humanities Program

Final speaker of the Friday morning session was John E. Burchard, '23, Dean of the School of Humanities and Social Studies, who reported on progress in this relatively new school at the Institute. Dean Burchard took pains to point out that the Institute's program in instruction has always provided for general studies (now called humanities) and that the changes which have come about in the curriculum since the School of Humanities was organized are ones of degree rather than of purpose.

Dean Burchard took obvious pleasure in recalling that the Institute has always had an outstanding Faculty in the humanities. In the past quarter century such personalities as Davis R. Dewey, Robert E. Rogers, Donald S. Tucker, Henry L. Seaver, Henry G. Pearson, Ernest F. Langley, Herman R. Kurrelmeyer, and Penfield Roberts were singled out for specific mention. The Institute's Faculty has also included such well-known historians as Carl Bridenbaugh, Harold U. Faulkner, Crane Brinton, and Frank Aydelotte — thereby proving that an understanding of technology is certainly no barrier to success in fields other than science and engineering.

There is a vast difference, said Dean Burchard, between the courses of instruction in the humanities as taught at a technological institute and those taught in liberal arts college or even in a university. At M.I.T. the Faculty of the humanities is respected and on an equal footing with other Faculty members; there is also a spirit of co-operation which is frequently lacking in some universities where the faculties of various schools do not come into contact with, and hence do not really understand one another.

The humanities and social sciences are an integral part of education at M.I.T. Their purpose in the curriculum is to impress upon the student how important human relationships are in any society, and to develop in him the first-rate human and social values which must accompany technical competence if an individual is to make his maximum contribution as a citizen.

The four-year program is based upon the theory that to achieve a well-balanced professional education a student should pursue these studies simultaneously with his studies in science and engineering. The program is constructed in a manner that will insure the student some breadth in the humanities during his first two years and some depth in a more limited area of either the humanities or social sciences in his third and fourth years.

Freshmen entering the Institute are required to take a course in Foundations of Western Civilization — taught to one section by Dean Burchard. This topic involves a study of the individual in his relationship to society and of the moral and intellectual problems involved in this relationship. During the first term, emphasis is placed on two societies in the premodern period which have contributed significantly to contemporary civilization and are remote enough in time and place to provide contrasts to contemporary social organizations and behavior. One of these is a study of Athens in the Fifth Century B.C.; the other is a study of France in the Thirteenth Century. Works by



Bruce F. Kingsbury, '44, Executive Secretary of the Educational Council (left) speaks on "Educational Council and Honorary Secretaries" in a lecture room in the Eastman Laboratories. (Right) Those attending the buffet dinner at Walker Memorial were treated to delicacies prepared by Walker Memorial chefs in the newly redecorated student center.

More, Shakespeare, Hobbes, Locke, Galileo, and other leaders of thought are studied.

The students are thus led to consideration of important problems which, despite their age and the thought expended upon them, have not yet reached final solution. Students are also acquainted with the works of original authors themselves, and they read books written during the period about which they study.

In such a course the students meet a few of the "great books" and come into contact with problems of the past which have their modern counterpart even today; hence the student comes face to face with problems he will encounter when he graduates. In such a course the hope is to arouse interest in literature, music, history, economics, the arts, labor relations, political science, psychology, and similar broad topics.

All this is not possible without a scholarly and specialized Faculty and this is perhaps the greatest one of the great differences between the School of Humanities and the General Studies program of former years. Dean Burchard said he was not afraid to make a comparison between members of his Faculty and any comparable young faculty in the country. Already many members of this Faculty in the School of Humanities have made outstanding contributions in writing, editing, or in studies of their own. The Center for International Studies and the Graduate Program in Economics are specialized branches of the work in the School of Humanities.

Dean Burchard then outlined the new Course XXI which was initiated at M.I.T. last year. This is similar to the present Course XIV, in which 45 per cent of the student's time is devoted to topics in the humanities, and 55 per cent is devoted to topics in science and engineering. The student is able to obtain a bachelor's degree without course specification in four years, and by taking an additional year of study, is able to obtain a bachelor's degree with course specification. The four-year course may be a terminal course; if it is, it provides a good general education with sufficient engineering and science to enable the graduate to take an intelligent and active part in the

mature life in his community. Or, the course may be used as a foundation for advanced work in graduate professional schools, such as medicine, law, business administration, industrial management, and possibly even the ministry. The course has sufficient foundation in science and engineering that it can well serve the needs, at the undergraduate level, of engineers and scientists who continue their graduate work, either at M.I.T. or at similar educational institutes.

Luncheon

At 12:15 P.M. on Friday, those attending the conference had an informal luncheon in the dormitories in the vicinity of the Kresge Auditorium. Some members went to Baker House, where they had opportunity to see dining facilities serving about 350 of the Institute's undergraduate body; others went to the Campus Room in the Graduate House, where they obtained firsthand the opportunity of learning how 450 graduate students regale themselves during the school year.

Effective Teaching and Research

On Friday afternoon Alumni gathered in Huntington Hall—in which many of them had sat as students—to participate in a conference symposium on "Research Progress at M.I.T." C. Richard Soderberg, '20, Dean of the School of Engineering, presided at this meeting at which addresses were given by: Henry G. Houghton, '27, Head of the Department of Meteorology; Thomas H. Pigford, '48, Associate Professor of Nuclear Engineering, and Leonard A. Gould, '48, Assistant Professor of Electrical Engineering.

In opening the afternoon session, Dean Soderberg said:

I deeply appreciate the privilege of appearing before you on this occasion, particularly because it gives me an opportunity to express my gratitude to you for your unselfish service in furthering the interests of M.I.T. This afternoon's program is devoted to "Research Progress at M.I.T.," and we will endeavor to give you a few samples



Members of the M.I.T. Family at the head table at the dinner in Walker Memorial included (left to right): Donald P. Severance, '38, Secretary-Treasurer of the Alumni Association; Beverly Dudley, '35, Editor, The Technology Review; Henry B. Kane, '24, Director of the Alumni Fund; Theodore T. Miller, '22, Chairman of the Alumni Fund Board; C. Richard Soderberg, '20, Dean of the School of Engineering; Edward L. Cochran, '20, Vice-president for Industrial and Governmental Relations; John J. Wilson, '29, Vice-president of the Alumni Association; and James R. Killian, Jr., '26, President of M.I.T.

of this side of the Institute's activities. Many of you received your impressions of M.I.T. at a time when research was still somewhat of a side issue, and the role of research in the operations of M.I.T. today is perhaps not always obvious. For this reason, I should like to make a few observations on the role which research plays in our educational program.

The earlier concept of professional education was the transmission to the students of a quantity of information, taken from a stationary and stable body of professional and scientific knowledge. This concept was carried over from the old pupillage system, which was the basis of vocational training. M.I.T. was one of the pathfinders in extending this system to a body of scientific, as well as practical, information. As the body of knowledge has grown and the development of new fields has taken place, this system has shown certain weaknesses, which have been the subject of much discussion in recent years. Perhaps the best way to illustrate the problem is the following. The freshman who enters M.I.T. this fall hopefully expects to graduate in 1959; if he goes on to graduate work, he might not be ready to start his career until 1962 or later, particularly if he is to do his stint of military service. He will reach his prime professionally in the 1970's, and with biological luck, he might be around in the year 2000. Long before then it is probable that our industrial system will have been revolutionized by the influence of new ideas now in view, such as atomic power and automation, and by others still hidden.

Man usually makes a fool of himself when he insists on predicting the future in detail. We cannot anticipate with any exactitude the things our future engineers and scientists will need, but one thing is certain: a good bit of the 1955 synthesis of professional knowledge is likely to be

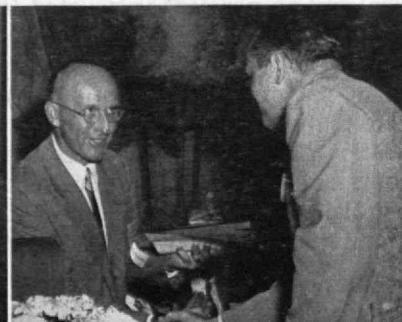
outdated and irrelevant. This dilemma existed in the past, too, and many of you must have made reflections on the usefulness of the information which you received at M.I.T. One of the reasons why this knowledge has stood you in good stead is that a relatively large segment of it, much larger than that of any other school in fact, consisted of knowledge in fundamental science. This part of the M.I.T. tradition has been further strengthened in recent years, but now even the fundamental sciences present great difficulties in wise selection. Where classical physics was once sufficient, we now have physics of the solid state, quantum physics, relativity, and physics of the atom.

Perhaps the most important conviction which has grown upon us in trying to cope with this situation is that the actual coverage of the educational program is less important than the spirit and methods of reasoning which it embodies. The only part of the training which is likely to survive in the future is the courage and ability to face every new situation requiring lifelong study of new phenomena. This is the very opposite of the comfortable assurance that there is a delimitable quantity of knowledge, forming a permanent set of tools for the professional man.

It is against this background that you should judge the research program of the Institute. Vital teaching stems from participation of both student and teacher in creative, exhilarating effort. This is particularly true for education at the advanced level, but we are beginning to find that the same is true and possible of application at the elementary level as well.

I have left out of this picture the obvious and important fact that many of the things we do in research have come about because of national need, particularly in rela-

Presentation of the Bronze Beaver Awards was a unique and outstanding event at the Alumni Officers' Conference. Shown below are presentations by Hugh S. Ferguson, '23, (left to right): Jonathan A. Noyes, '12, as representative of the M.I.T. Clubs of the Southwest; Raymond A. St. Laurent, '21, receiving the Class Secretary's award for Carole A. Clarke, '21; and Alf K. Berle, '27, recognized as the outstanding Class Agent.





Others at the head table at Walker Memorial included (left to right): Dwight C. Arnold, '27, President of the Alumni Association; George R. Harrison, Dean of the School of Science; Joseph J. Snyder, 2-44, M.I.T. Treasurer; Hugh S. Ferguson, '23, Past President of the Alumni Association; E. P. Brooks, '17, Dean of the School of Industrial Management; H. E. Lobdell, '17, Executive Vice-president of the Alumni Association; Ralph T. Jope, '28, Business Manager, *The Technology Review*; Bruce F. Kingsbury, '44, Executive Secretary of Educational Council; and John W. Sheetz, 3d, '42, Assistant Director of General Services.

tion to defense. Some of these aspects have forced us to expand the research program beyond the needs of education. I wish to assure you that this is carefully watched by the Administration. Some of these efforts have now been segregated within the Division of Defense Laboratories.

However, the real test of the research program at M.I.T. continues to be its relation to the program of education. The three examples selected for this afternoon's program will illustrate to what extent we have succeeded in this endeavor.

Radar and the Weather

Following Dean Soderberg's remarks, Professor Houghton spoke on "Radar and the Weather" which *The Review* is pleased to present as a feature article (page 18) in this issue. At the conclusion of his address, Professor Houghton showed motion pictures of the progress of rainstorms in the Boston area, as they were recorded by radar equipment.

Second topic of the afternoon session, emphasizing Research Progress at M.I.T., was an address on "Production and Utilization of Nuclear Power and Progress on the Institute's Reactor," by Professor Pigford.

Nuclear Science and Engineering

A course on "Applications of Engineering of Nuclear Science," which has been offered at the Institute for several years, has presented a sound program in the principles of nuclear reactors, but there is now a demand to give increased attention to the engineering problems of nuclear reactor design, construction, and operation. The national government is committed to a program of fostering nuclear energy for industrial use, and industry is willing to make substantial investment in this field. By 1970, Professor Pigford estimated, seven billion dollars will be spent in the development of nuclear power.

The growth of M.I.T. courses in nuclear engineering and science reflects the increase of general interest in this new field. In 1952 M.I.T. had six undergraduate students in this field; today there are 18 students working toward their master's degrees in

nuclear science and engineering, and a program leading to a doctor's degree will soon be operating.

The aim of M.I.T. training in the field of nuclear science and engineering is to draw on the basic undergraduate training in any and all fields of engineering offered at the Institute, and to provide additional courses in nuclear science and engineering such as will make the student a better engineer in the new field of power. Hence, the instruction in nuclear science and engineering draws upon, and builds on, and cuts across existing service courses in all fields of engineering offered at M.I.T. In addition the Department of Chemical Engineering also offers undergraduate service courses in nuclear science and engineering; these are open to all qualified students, regardless of nationality. Of course, the work offered at M.I.T. at the undergraduate level is not classified. Both classified and unclassified work are available, however, in the field of graduate research.

Located at strategic industrial centers in various parts of the nation, the Practice Schools of the Department of Chemical Engineering provide an excellent opportunity for graduate students to put theory to test in actual plant operations. At the Institute itself, however, there is a growing need for students to have an opportunity to test the nuclear theories and textbook material through actual contact, on an experimental basis, with a nuclear reactor. Hence, there is a definite and growing need for a nuclear reactor to be located in Cambridge. Such a reactor is now being planned and will be designed and built primarily for educational purposes. The proposed M.I.T. reactor will not be designed to produce power; in fact, the power it does generate will be wasted, since it is not feasible to build a reactor which serves equally well the needs of classroom or laboratory while also producing useful power.

The nuclear reactor being planned for construction at M.I.T. will be an educational tool broad enough in its capabilities to serve the needs of courses in engineering and science other than those devoted exclusively to nuclear energy. For example, the reactor will provide a copious supply of neutrons, which are useful to all Departments conducting experimental research in the physical sciences.



Head table guests at the Faculty Club on September 10 were (left to right): William Speer, Associate Dean of Students; B. Alden Thresher, '20, Director of Admissions; Norman C. Dahl, '52, Associate Professor of Mechanical Engineering; Dwight C. Arnold, '27, President, Alumni Association; Edward L. Cochrane, '20, M.I.T. Vice-president; John J. Wilson, '29, Vice-president, Alumni Association; President James R. Killian, Jr., '26, Chenery Salmon, '26, member, Executive Committee, Alumni Association; Thomas P. Pitre, Associate Dean of Students; and Gilbert M. Roddy, '31, Vice-president, Alumni Association.

Design plans for the M.I.T. reactor call for a new type of reactor well suited to the needs of educational institutions. The reactor will yield a wide variety of nuclear particles suitable for research needs. Above all, it will be the safest type of reactor now known. Preliminary plans for the reactor have been approved by the Atomic Energy Commission, and improved modifications, now being designed, will be submitted to the A.E.C. for approval before construction is begun. Both the A.E.C. and M.I.T. clearly recognize their obligation to take every known precaution for safe operation of a nuclear reactor to be located in a densely populated industrial area. It is expected that the reactor can be put into operation about the spring of 1958.

The operation of a nuclear reactor which is situated in a metropolitan region raises a number of important problems regarding health. It has already been stated that the type of reactor being built is the safest type now known. The problem of waste disposal, however, remains. The Institute does not propose to handle the problem of radioactive waste disposal by itself. Instead, it plans to collect all radioactive waste products in sealed, steel containers, and ship them to the Atomic Energy Commission for

disposal in accordance with procedures set up by this national Commission. So far as potential health hazards are concerned, all operations will be in accordance with A.E.C. requirements, in addition to requirements of the Institute's own personnel in the Medical Department concerned with occupational safety, under the direction of Dr. Harriet L. Hardy.

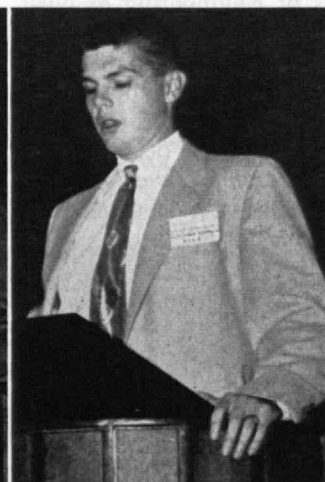
Feedback and Control

Third and final speaker in the afternoon session on "Research Progress at M.I.T." was Professor Gould who spoke on "Servomechanisms and Automation."

Professor Gould opened his talk with a demonstration in which the motion of an artificial car or "bug" was remotely controlled by light shining on photoelectric cells placed at the eyes of the bug. The principle demonstrated in this rather elementary mechanism was simply that it was possible to design a mechanism that would tend to move toward the brightest light. Of course other control systems are possible, and the demonstration was used solely for purpose of illustration.

(Continued on page 42)

Speakers at the Alumni Officers' Conference on September 10 were (left to right): Edward L. Cochrane, '20, M.I.T. Vice-president; Herbert S. Amster, '56, chairman of the Dormitory Council; George W. Luhrmann, '56, chairman of the Interfraternity Conference; and John S. Saloma, 3d, '56, chairman of the Institute Council.



An Evaluation of Student Government

Those attending the Alumni Officers' Conference

Heard the President of the Institute Committee

Report on Student Government in the Colleges

By JOHN S. SALOMA, 3d

At the fifth National Student Body Presidents' Conference, held at the University of Minnesota in August, over 200 leaders of student government from every part of the United States were asked a rather searching question: "Can student government justify its own existence?" The results of a Ford Foundation research project — The Role of Student Government in Higher Education — carried out by the United States National Student Association were presented. The study revealed that a large number of student governments were glorified activities boards. Election to some of the representative type student governments had degenerated to a campus-wide popularity contest. Adverse faculty opinion to student government was evident at several schools, where the extracurricular was viewed to be in conflict with the curricular. Not only was faculty and administration support lacking but the students themselves viewed their elected representatives as petty politicians meddling in petty politics. In fact, the problems that ranked highest on most student government agenda were social policies, activities' fees, and traffic parking problems. Few student governments had defined, let alone were aware of, their aims and purposes in the academic community.

We have seen the black side of the picture; now let us look at what might be considered an ideal form of student government. Just what are its characteristics?

First: It has defined its purposes in the educational community. It recognizes the development of the mind as the common bond of the students it represents. Its pursuits are tempered by this realization. Such problems as segregation and limited school facilities, which restrict the development of the individual student, are important concerns of such a student government.

Second: It has a permanency, a maturity that transcends the transitory nature of the four-year student which comprises it. There is a purposeful continuity in its organization and its leadership training programs. It has developed a long-range outlook to provide a balance to the impetuous urge of the student to do something and to do it today.

Third: It assumes a responsible position in the academic community. It works in a spirit of partnership with the faculty and administration. It tackles such problems as college policies on curricula, the location of buildings on campus, tuition changes, student loan policies, vocational guidance, commuter problems, and even college placement. The faculty and admin-

istration respect the well-prepared mature opinions of such a student government and look to it for its share of contributions to the growth and improvement of the institution. It is in such activity that student government demonstrates its concern for the advancement and growth of the educational community.

Fourth: It develops horizons broader than its own campus. Problems of national and international scope which concern students in their role as students are evaluated and dealt with individually. The student body is kept aware of major issues, such as military man power and foreign student exchange. An awareness and responsibility that extends beyond the campus is a necessity to the development of the mind.

Fifth: The last and perhaps most idealistic characteristic of our student government is the individual student identifying himself with his student government. When a student government forgets the popular topics of big dances and more space for parking, and begins to work in the more unpopular field of education and the development of the mind, it will find, over the long run, much greater student support. The student from India, the commuter from Dorchester, the dormitory man from Baker, and the fraternity man from Beacon Street will have a common interest in the student government working for the common good.

Well, these are the attributes. The Ford study showed that the majority of American student governments measured up to this ideal miserably. What about M.I.T.? Five years ago I am afraid we would have struck out on all five points! But, fortunately, student government at M.I.T. has made some encouraging strides since then. One of the major accomplishments of this period has been the complete reorganization of student government at the Institute Committee level and the consequent redefining of subcommittee areas. During my freshman and sophomore years, the Institute Committee was an unwieldy group of some 40-odd members, including a large block of activity representatives. After a lot of hard work and some bitter opposition we now have a 19-member Institute Committee with predominantly living group and class representation. The activities have a separate council, subordinate to Institute Committee, and elect a chairman who has one vote in the parent organization. The new streamlined Institute Committee has pledged in the preamble to its constitution to "work for the good, welfare, and renown of the Massachusetts Institute of Technology."

But before I go any further into a description of student government and its activities at M.I.T., I should like to offer an answer to the question that introduced my remarks — "Can student government justify its existence?"

I feel the basis for our concept of student government at M.I.T. is adequately expressed in the words of the late Karl T. Compton:^{*} "Only a part of a really adequate college education is secured in the classroom — a very important part to be sure, but often wasted unless accompanied by qualities of character which are largely the products of personal contacts in the activities of community life. Consequently, I believe that students in a college should be considered not as youths studying and reciting under the discipline of a faculty, but rather as young citizens in a community — a community centered around the intellectual pursuits but involving the responsibilities incident to the social recreational and professional interests of the group. . . . In addition to the influence which comes from the personality and example of teachers, much can be done by suitable organization. For example, the students' extracurricular activities offer a rich opportunity for the development of a sense of responsibility, a technique of management, and a spirit of team play."

Dr. Compton's words express the trend in educational circles toward the reintegration of curriculum and extracurriculum leading to the new term "co-curriculum."

I should now like to show you through the work of Student Government, over the past year or two, a few of the contributions it has made to the educational community.

1. Leadership experience is one quality that cannot adequately be taught in the classroom. Through student government individuals are given the opportunity to lead committee meetings or discussion groups, plan and organize small- and large-scale projects from a seminar to an intercollegiate conference, become acquainted with members of the faculty and administration, and speak before groups of students. E. P. Brooks, '17, Dean of the School of Industrial Management, has often referred to student government as a workshop for management. Unfortunately everyone cannot be a chief, we need some Indians. It is still our concern, though, to see that the opportunities for leadership training are maximized.

2. Student-Faculty Administration relations are the crux to the concept of an educational community. I feel the last year has been the most productive in this field. The revitalization of the Student Faculty Committee into a high level Liaison Council and a Student Committee on Educational Policy, roughly paralleling the Faculty Committee on Undergraduate Policy, will greatly facilitate communications and develop a feeling of community co-operation in tackling Institute-wide problems. Several special committees of the Institute during the past year have included both students and faculty. President Killian's Committee on Student Housing, including representatives of the Corporation, Alumni, Administration, Faculty, Graduates, and Undergraduates, will formulate recommendations for the projected development of

^{*} President of M.I.T., 1930-1949.

the Institute over the next decade. Indeed, we have seen a growing community spirit centered around the intellectual pursuits, as Dr. Compton phrased it. But we have not reached Utopia yet. When the Faculty turned down the Institute Committee request to sit in an advisory nonvoting capacity on a number of faculty committees, one of the reasons given was that students lacked "responsibility," — responsibility in the sense of a long-range, more permanent perspective of the Institute and how it operates — a responsibility seasoned by years of experience. In the eyes of our faculty, student government has a long way to go in demonstrating the permanency and responsibility of the ideal I referred to earlier. The burden of proof must rest with us. The success or failure of the student venture on educational policy will have important repercussions on faculty thinking. It is my sincere hope that some day in the not too distant future, we shall progress to the point where the faculty will invite students to sit in regular attendance on whatever standing committees may be concerned with the role of the student in the academic community.

3. If any contribution to Institute thinking can be labeled of student origin, the proposal for a Student Union Building is it. The idea of a student center had its beginning years ago at the Institute. But for years it was only an idea, a rather unimportant one on the over-all building program of the Institute. The Baker Memorial Committee undertook a study of a student center at M.I.T. The project grew and a special subcommittee of the Institute Committee was formed. That was two years ago. The students have since presented to the President and Corporation a well-formulated report on a Student Alumni Center at M.I.T. The report embodies the purpose of, and need for, a Center, facilities which should be included — for activities and organizations, recreation and commercial establishments — student surveys, financial estimates, a tentative location plan and tentative architectural plans. Three student theses have been written on the subject. The original concept of a student union has broadened to one of a true center of campus activities, with hotel and restaurant facilities for visitors, and a location for alumni functions and offices.

The need for such a building has been recognized by the Institute. In a few months, when the recommendations of the Committee on Student Housing are presented to the President, we shall have a better idea as to its status on the building program. Further planning on an Institute level will then be necessary. We hope that in the not too distant future the entire Institute will benefit from the idea pioneered by the students.

You have already heard of the successful conference on "Selectivity and Discrimination in American Universities." Many of you have read the Compton Book, or seen the activities calendar. These are a few other contributions of student government to the educational community. If time permitted I should like to go into areas of current concern to student government — the problems of commuters and foreign students.

(Concluded on page 70)



M.I.T. Photo

Our Man Power Resources

President Killian's Annual Message to the Corporation Emphasizes the Institute's Responsibility to Educate the Nation's Leaders

President Killian in Walker Memorial, as he appeared before the Alumni Officers' Conference on September 9.

IN his annual message to the M.I.T. Corporation, on October 3, James R. Killian, Jr., '26, President, reporting on the state of M.I.T., dealt effectively with a discussion of the nation's man-power requirements and especially with the Institute's response to these requirements. A wealth of information on the nation's current man-power requirements in the field of technology is contained in Dr. Killian's report which Alumni will want to read. In resuming publication after the summer vacation period, The Review is faced with an unusually large amount of news to report, and rather definite limitations of time and space in which to set forth an adequate review of activity that has taken place since the July issue was published. For this reason, President Killian's annual message is presented in condensed or abbreviated form in these pages.

In the opening section entitled "Meeting the Nation's Scientific Man Power Needs," President Killian said:

The strategical planning of our man-power resources in the United States calls at this juncture for a major drive to enhance the excellence and increase the creativity of scientific and engineering education even beyond their present fine performance. The strength and progress of our society depends less upon numbers and more upon an advancing quality of professional accomplishment. Technological competition among nations and among industries is increasing, and the safety and welfare of both may depend upon their capacity to compete. Our dynamic society anticipates and requires new jobs, an upgrading of old jobs, a still higher standard of living, better health, and stronger defense. The fulfillment of these needs requires a new order of excellence and creativity in the nation's professional work. While the preparation for this new order of excellence begins in the secondary schools, our professional schools have the major responsibility in setting and underwriting these new standards of professional accomplishment.

While the United States has experienced shortages of professional talent in the past, notably of physicians,

we have not in many years experienced so great or persistent an imbalance between supply and demand as we now have in science and engineering. The sustained scarcity of professional man power in these fields, having been widely proclaimed, is now generally recognized, and its handicap to the nation is becoming understood.

Not so well recognized and understood or stressed is the qualitative nature of the shortage. We have a shortage of young engineers competent to handle new, advanced technologies. We have a shortage of research scientists and engineers (the demand for whom has been doubling every decade). We have an acute shortage of scientists whose creative and conceptualizing powers are exceptional. We have, in summary, a shortage more of basically educated, versatile young talent than of mere numbers of scientists and engineers. There is indeed a shortage of numbers in many but not all fields of science and engineering; we could better cope with such a shortage did we not also have an even more severe shortage of quality, depth, adaptability, and up-to-dateness.

As our advancing technology becomes more complex and sophisticated, it requires scientists and engineers — and managers — of more advanced education and analytical powers. There are areas of technology so new and rapidly advancing that only men with self-acquired fundamental and versatile understanding or with recent education in the new technologies are able to master or to keep pace with them. There are many areas of technology that are now closed books to those engineers lacking creative powers or to those whose training or analytical abilities never carried them beyond the superficial methods of handbook engineering. The qualitative nature of this scarcity is reflected in the placement offices where industry seeks new men. Employers are not just looking for "bodies" with degrees; they are looking with a critical eye for competence that is up-to-date and versatile enough to meet the needs of their advancing technology. The companies dependent upon "high" technology are pressing the colleges for men with a more fundamental, integrated education in science, engineering, and the humanities rather than for men specialized in some field of technology at the expense of fundamentals. Employers want more scientists and engineers,

but they don't feel they are meeting their needs by employing inferior or narrowly educated ones. They want men — particularly young engineers — with the power to deal with the technologies of tomorrow and not of yesterday.

Similarly in the basic sciences our most pressing needs are for those scientists who have the imagination and trained creative power to make the discoveries and generate the new concepts which advance science. We hear much about the need for basic research and funds to support it. These needs are great, but greater still is the need for more scientists who have the trained talent, the motivation, and the conceptualizing power to make basic research really basic. In stressing the need — which has always been present — of exceptional talent, I do not minimize the critical shortage of the rank and file of good competent scientists. Flag officers are not enough to provide a strong scientific attack force, but the really acute shortage now is in the flag officer group. . . .

Having thus stated the qualitative aspects of the present scarcity of technical man power in the United States, President Killian gave consideration to those factors affecting the quality and intellectual abilities of technically trained personnel of the highest caliber. It is especially in this area that M.I.T. is most concerned and can make its greatest contribution to national welfare. This was clearly recognized in the President's Report when Dr. Killian said:

The quality of American scientists and engineers depends upon our willingness and success in building a more differentiated system of higher education, with institutions specialized more and more in accord with the degree of intellectual performance expected of their students. It depends, for example, on increasingly strong graduate schools of science and engineering and on undergraduate schools associated with these graduate schools where standards of admission are very high and where the educational environment is as benign to scholarship and discovery as that to be found anywhere in any field of learning. These are qualities of maturity, of disinterested scholarship, of freedom, and of intellectual stimulus which mark such an environment and which are necessary for scientific work of the highest order and for the maturing of first-rate scientists and engineers.

One of the major threats to scientific and engineering education is the higher compensation and other attractions offered to scientists and engineers by industry and other employers. This problem is less acute in science, since the university is (and must continue to be) a natural habitat for creative scientists. Engineering education, however, has been more vulnerable to this competition. This is particularly true of those engineering schools limited to undergraduate programs; but all of engineering education has been under pressure because its young and imaginative teachers — especially those in the advancing, growing fields of technology — are sought after by industry to a greater degree than any other group in our educational institutions.

If engineering education is to meet this challenge and prevent the spreading scarcity of quality in engineering schools that has weakened science teaching in the high schools, it must find ways to make engineering schools a more attractive environment for top-flight engineers.

One of the surest ways of accomplishing this is to create and maintain strong graduate schools of engineering. In those engineering institutions where strong graduate schools exist and where there is a fruitful alliance with basic science, an environment attractive to first-rate engineers has been achieved — but not, of course, a

competitive scale of compensation. The urgent need now in American engineering education is for more research and graduate study in order to create the environment for attracting first-rate, imaginative teachers. The engineering profession can no longer depend primarily upon a system of undergraduate professional education. The development of more advanced study is the path that can lead again to creativeness and imaginativeness in teaching — that boldness and fecundity in pioneering new educational ideas that have characterized engineering education in the past and that it now seems to have lost. It is not that our national resource of engineering education is less strong than it used to be. It is rather that the demands placed by our society on engineering education are greater. The challenge of this responsibility and of our advancing technology steadily creates new opportunities and new requirements for engineering education and creates the need for a new order of professional excellence. We have a small number of engineering institutions — and M.I.T. is one of these — where this awareness of the engineer's new importance in our society exists, and where there is an atmosphere of creativity, of growth in ideas, and of high professional excellence that are commensurate with the responsibility and potential of engineering in our society. These institutions, however strong, cannot relax for a minute if they are to keep ahead of our society's advancing technological opportunities and if they are to educate engineers of the breadth, scope, and power now needed. . . .

With this outline of the nation's present need for broadly trained scientists and engineers of the highest professional competence, President Killian next devoted a section of his annual report to a review of the Institute's response to an important national need and its unique responsibilities in helping to alleviate the man power shortage. He recalled, for example, that the Institute's enrollment has increased by 2,600 students (or by 80 per cent) since 1941, while new buildings costing \$18,878,000 and permanent funds totaling \$28,733,000 have also been part of the Institute's postwar program. President Killian outlined methods the Institute is taking to minimize human wastage, by better procedures for selection of students and by reducing the number of failures for reasons of low scholarship. The Institute's program of student selection was also discussed in detail at the Alumni Officers' Conference which was held at M.I.T. on September 9 and 10, a report of which appears in this issue of *The Review*. In addition, Dr. Killian recalled that:

M.I.T. has shared in meeting the national need by initiating new programs to meet new needs, both in research and in teaching. Since the war we have added a graduate course in nuclear engineering and augmented our program in nuclear science. We have organized a School of Industrial Management, established as a formal entity the School of Humanities and Social Studies, and added the Center for International Studies. To recognize new areas of importance and new technologies and to increase opportunities for both graduate and undergraduate study, we have organized new laboratories and programs such as the Research Laboratory of Electronics; the Combustion, Acoustics, Nuclear Science, Gas Turbine, Servomechanisms, Dynamic Analysis and Control, Instrumentation, Cryogenic, Insulation Research, Hydrodynamics, and Aero-Elastic Laboratories; the Supersonic Wind Tunnel and the Towing Tank. There has been an

(Continued on page 66)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Atoms for Peace Awards

JAMES R. KILLIAN, JR., '26, President of M.I.T., will serve as chairman of the Organization and Planning Committee of Atoms for Peace Awards, according to an announcement late in September made by Henry Ford, 2d. In addition to Dr. Killian, the committee will include: Detlev W. Bronk, President of the Rockefeller Institute for Medical Research and President of the National Academy of Sciences; Ralph J. Bunche, Under Secretary General of the United Nations; Arthur H. Compton, professor, and former Chancellor, Washington University; Mrs. Douglas Horton formerly President of Wellesley College; Mervin J. Kelly, President of the Bell Telephone Laboratories; and Alan Waterman, Director of the National Science Foundation.

Atoms for Peace Awards, announced by Lewis Strauss, chairman of the Atomic Energy Commission, in Geneva on August 8, was established as a memorial to Henry Ford and Edsel B. Ford by a Ford Motor Company Fund appropriation of \$1,000,000. It will provide \$100,000 annually for 10 years to be spent in helping to provide incentives for the world's scientists, inventors, and engineers — without regard for nationality or political belief — toward finding new ways in which the atomic energy science can be used for the welfare of mankind.

"I welcome the opportunity to share in the establishment by Mr. Ford of the Atoms for Peace Awards and to work with him and the other members of the committee in planning the means for making the awards," Dr. Killian commented. Continuing, he said: "Bold and imaginative acts to encourage and demonstrate the benign uses of science and technology, such as the president's 'Atoms for Peace' program, are top-priority items on the agenda for world peace. The establishment of the Ford Atoms for Peace Awards is such a bold and imaginative act, and I am happy to be associated with the program."

Mr. Ford said that the Executive Committee of M.I.T. had approved his suggestion that the headquarters of the new institution be located at the Institute. The Organization and Planning Committee, under the leadership of Dr. Killian, has agreed to undertake the planning and organization of the Atoms for Peace Awards that will best assure the use of its funds during the next 10 years toward the application of atomic energy for man's benefit.

In inviting Dr. Killian and the six distinguished members of his committee to accept this assignment, Mr. Ford expressed the hope that the committee "would set up the organization of the awards so that the organization would be an independent corporate entity, entirely separate and divorced from Ford Motor Company."

In informing Lewis Strauss of the establishment of the new institution on July 25, Mr. Ford described it as a response to the hope expressed by President

Eisenhower at the July meeting of the "Big-Four" in Geneva that "private business and professional men throughout the world will . . . provide an incentive in finding new ways that this science can be used . . . for benefit of mankind and not for destruction."

Mr. Ford said at that time, "We would propose that when the organization of this new memorial fund is completed, the Board of Trustees of Atoms for Peace Awards appoint each year a competent International Jury of Awards for the purpose of selecting from among the world's scientists, inventors, and engineers — without regard for nationality or political belief — the individual or group of individuals who, in the jury's judgement has made the greatest contribution during the year to peaceful uses of atomic energy; that the individual or group so selected be granted with appropriate ceremony the Atoms for Peace Award for that year; that the annual award carry, in addition to a suitable medal to be designed and cast for the purpose, an honorarium of \$75,000; that, if during any year the International Jury of Awards or the Board of Trustees finds no candidates preeminently meriting the Atoms for Peace Award, the sum at the disposal of the memorial fund be used that year for scholarships and fellowships most likely to contribute to the advancement of the new science of peaceful application of atomic energy."

Institute Professor

APPOINTMENT of Francis O. Schmitt as an Institute Professor at M.I.T. was announced in September by George R. Harrison, Dean of the School of Science. Dr. Schmitt becomes the second Institute Professor at M.I.T., a distinguished academic post which recognizes outstanding achievement and gives its incumbent freedom to concentrate on research and advanced teaching. The only other member of the Institute's Faculty who holds this rank at present is Professor John C. Slater, distinguished solid state physicist.

For the past 14 years Dr. Schmitt has been head of the Department of Biology. Under his leadership, the Department won international recognition and Dr. Schmitt has requested that he now be freed from administrative duties to devote all his attention to advanced teaching and research. Irwin W. Sizer, Associate Professor of Biochemistry, who has been the Biology Department's executive officer, has been appointed acting head of the Department. Dr. Sizer has taught physiology and biochemistry at the Institute for 20 years. In addition he has had considerable experience as an administrator and has for many years been in charge of the program for biology graduate students.

Dr. Schmitt is one of the world's foremost authorities on the biological uses of the electron microscope, which has made possible in recent years the photog-



Members of the Class of 1930 and their families happily celebrated their 25th reunion on the week end of June 10. Baker House at M.I.T. served as headquarters.

raphy and study of structures approaching the molecule in size. He came to M.I.T. in 1941, the year in which the Institute installed the first electron microscope used in an academic biological laboratory. M.I.T. now has six electron microscopes in operation.

A native of St. Louis, Dr. Schmitt received his A.B. in 1924 and Ph.D. in 1927 at Washington University. As a student he became interested in x-ray diffraction and polarization optics which, along with the more recently developed electron microscope, make possible the study of the molecular organization of cells.

Dr. Schmitt did advanced study at the University of California, University College in London, and Kaiser Wilhelm Institute of Berlin-Dahlem. In 1929 he was appointed to the faculty of Washington University and was head of the department of zoology there when he left to come to M.I.T. He is currently making studies of collagen, the primary protein of skin and connective tissue, in connection with rheumatoid arthritis and the tanning of leather. His work has included the photographing of macromolecules, only one one-hundred-thousandths of an inch long, which are produced by cells as basic biological building blocks, just as girders are produced by the steel industry for the basic components of buildings.

Dr. Schmitt was awarded the honorary degree of doctor of science by Johns Hopkins University in 1950 and Washington University in 1952. He is chairman of the Study Section on Biophysics and Biophysical Chemistry for the National Institutes of Health. He is a member of the National Academy of Sciences, the American Philosophical Society, the American Physiological Society, the Society for Experimental Biology and Medicine, the American Society of Zoologists, the American Society of Naturalists, the Electron Microscope Society of America, and the Crystallographic Society. He is also a fellow of the American Academy of Arts and Sciences and the New York Academy of Sciences.

Dr. Sizer, a native of Bridgewater, Mass., received his A.B. from Brown University in 1931 and his Ph.D. from Rutgers University in 1935. He came to M.I.T. in 1935 as instructor and research associate in biology and public health, became an associate professor in 1942 and executive officer of the Department in 1954. In 1951 he was a visiting lecturer at Brown University where he taught a seminar course on enzymes.

Dr. Sizer has worked on the spectroscopy and biochemistry of collagen and has done research in con-

nection with the use of sheep gut, of which collagen is the principal constituent, for surgical sutures. His special interest has been the study of enzymes, such as tyrosinase, which is responsible for the pigmentation of the skin. In addition he has studied extensively enzymes which are concerned with the clotting of blood, and others which bring about the oxidation and destruction of the toxic irritants of poison ivy.

Dr. Sizer is a fellow of the American Academy of Arts and Sciences and a member of the American Society of Biological Chemists and the American Physiological Society. He also holds membership in the American Society of Zoologists.

Foundry Professorship

FOUNDRY work, once regarded as "a low-brow and sooty craft," has progressed in the direction of a science and now has its first professorship. The American Brake Shoe Company Professorship of Foundry Metallurgy, specifically designated for Howard F. Taylor, 2-46, already Professor of Metallurgy and Director of the Institute's Foundry Laboratory, has been established at M.I.T.

In making the announcement, C. Richard Soderberg, '20, Dean of the School of Engineering, said: "The establishment of this chair will stimulate education and research in foundry engineering, a field which only recently has begun to apply the scientific method. It also recognizes the life work of Professor Taylor, who more than any one else, has infused into the field the spirit of scientific methods and research."

"Metal casting is one of the oldest of the crafts but for centuries it was done chiefly by trial, error, and tradition. The American Brake Shoe Company and M.I.T. were among the pioneers in applying to it the principles of engineering."

Professor Taylor began his career in Navy research. A native of Leslie, Mich., he was graduated from Michigan State College with degrees in chemical engineering and metallurgical engineering. After a year as an instructor there, he went to the Naval Research Laboratory in Washington in 1937 and later became head of Steel Casting Research. He joined the M.I.T. staff in 1945 and in 1952 became a full professor.

Partly in consideration of his work during World War II, Professor Taylor was awarded the Peter L. Simpson Gold Medal in 1946 by the American Foundrymen's Society and the Army-Navy Distinguished Civilian Service Award in 1948.

Du Pont Athletic Bequest

A BEQUEST of \$1,000,000 for the improvement of athletic facilities at the Institute was announced by James R. Killian, Jr., '26, President, at a general convocation at M.I.T. on October 3. The bequest was made by a young man who would have been a senior at M.I.T. this fall if he had not been killed in a tragic automobile accident early last month. He was 21-year-old David F. du Pont, '56 (of Wilmington, Del.), a major in Metallurgy at M.I.T. and the son of the late Lammot du Pont, '01, former president and chairman of the board of E. I. du Pont de Nemours and Company, and member of the Institute's Corporation for many years. In announcing the bequest, Dr. Killian said:

"This bequest emphasizes our feeling of tragedy in the loss of David du Pont while at the same time leaving us with a feeling of the deepest appreciation for his generosity, his foresight, and his expression as a student of affection for the Institute."

Dr. Killian indicated that the fund would be used both to maintain the quality of the athletic coaching and teaching staff at the Institute and to provide new or improved athletic facilities. Without detailing specific uses for the large capital fund, Dr. Killian re-emphasized the long-standing athletic policy of the Institute.

"This policy," he said, "seeks to maintain an athletic program which will serve our educational objectives and provide wholesome recreation. It will never make athletics an end in itself."

"As in the past," Dr. Killian continued, "we shall encourage a maximum degree of student participation in athletics, promote student responsibility in the management of athletics, and stress intramural sports while maintaining a vigorous but moderate program of intercollegiate competition."

The principal speaker at the convocation, at which Dr. Killian presided, was the Right Honorable Clarence D. Howe, '07, Canada's Minister of Trade and Commerce, and Minister of Defence Production. Mr. Howe is also a member of the M.I.T. Corporation. Other members of the Institute's Corporation attended the convocation as guests of honor.

Other speakers on the program were: Professor Martin J. Buerger, '24, Chairman of the Faculty; Christopher J. Newton, President of the Graduate Student Council; and John S. Saloma, 3d, '56, President of the Institute Committee.

Director of Athletics

RICHARD L. BALCH, formerly dean of men at Stanford University, has been appointed director of athletics at the Institute, succeeding Ivan J. Geiger, who died last January. Roy B. Merritt has been acting director. Dean Balch, 36 years old, was varsity quarterback for three years at Union College and also played lacrosse for three years. He was a PT boat commander during World War II and has been at Stanford University since 1949.

In announcing the appointment, E. Francis Bowditch, Dean of Students, pointed out that M.I.T. has been widely recognized for its athletic program, which encourages participation by many students

rather than concentrating on the production of big-time teams.

Said Dean Bowditch, "Athletics broadly conceived, properly administered, and staffed with men of high quality can be one of our most valuable educational tools. Mr. Balch has a broad personal, educational, athletic, and administrative background coupled with unusual skill in working with and inspiring young people."

Mr. Balch was born in Evanston, Ill., but he was reared in Pasadena, Calif. While in Pasadena High School he participated in the sports of boxing, basketball, track, and baseball. He is a golf, tennis, and sailing enthusiast.

After graduation from Union College in 1941, Mr. Balch worked for a time as a claims adjuster for Liberty Mutual Insurance Company in San Francisco, and then volunteered for service in the Navy. He was a personnel and gunnery officer in PT Squadron Eleven from 1942 to 1944, participating in the Guadalcanal, Central Solomon, and Northern Solomon campaigns. He returned to the United States to teach in Motor Torpedo Boat Training School in Rhode Island.

Following the war he returned to Union College as administrative assistant to the president and assistant football and lacrosse coach. As dean of men at Stanford, Mr. Balch has been responsible for general academic and personal advising, supervision of the dormitory staff of men, adviser to fraternities and administration of financial aid.

In his new duties, according to Dean Bowditch, Mr. Balch will not only have charge of the athletic program but will co-ordinate the development of the athletic program with the development of the dormitory, fraternity, and activities programs.

Robert P. Bigelow: 1863-1955

ROBERT P. BIGELOW, Professor of Zoology and Parasitology, Emeritus, who retired in 1933 after 40 years' service in the Institute's Biology Department died on Tuesday, September 6. He was 92 years old. A native of Baldwinsville, N.Y., Dr. Bigelow was graduated from Harvard University and received the degree of doctor of philosophy at Johns Hopkins University before joining the Institute staff in 1893 as an instructor. He was appointed assistant professor of zoology and parasitology in 1912, associate professor in 1915, and professor in 1922. Following his retirement, Dr. Bigelow served as honorary lecturer in the Biology Department; and, in 1944, returned as a special lecturer. He had been librarian of the Institute from 1895 to 1925.

Dr. Bigelow was also the former librarian of the Marine Biological Laboratory at Woods Hole, and editor of the *American Naturalist* and *Technology Quarterly*. He was author of numerous articles on zoology and biology, and since his retirement had been occupied with historical writings and scientific reviewing. A fellow of the American Academy of Arts and Sciences and the American Association for the Advancement of Science, he had held memberships in the American Society of Naturalists, Association of American Anatomists, and History of Science Society.



In celebration of their 45th anniversary since graduation from the Institute, the Class of 1910 held its reunion at the Chatham Bars Inn, Cape Cod, on June 10 to 12. Despite rainy and cold weather, the spirit of those assembled was warmed by the friendship of half a century of association. In usual reading order are: Harold C. Manson (standing), Herbert S. Cleverdon, John Avery, Clifford C. Hield, Dudley Clapp, and Harold D. Billings. Stand-

ing, at right: Chairman of the 45th reunion, John B. Babcock, 3d, Professor of Railway Engineering, Emeritus. Professor Babcock is also Class Agent for 1910.

Political Science Section Formed

PROFESSOR NORMAN J. PADELFORD has been appointed chairman of the new Political Science Section at the Institute, according to Julius A. Stratton, '23, Vice-president and Provost of M.I.T. The section, which has been established within the Department of Economics and Social Science, will coordinate the work of professors in several M.I.T. departments for more effective undergraduate instruction in political science. By centralizing a wide range of academic research and teaching in political science, it is hoped that the new Political Science Section will act as a focus for further development of the field at the Institute. The interdepartmental faculty of the Political Science Section already includes two senior professors from other departments of the School of Humanities and Social Studies: Karl W. Deutsch, Professor of History and Political Science, and Walt W. Rostow, Professor of History.

Dr. Padelford, Professor of Political Science in the Department of Economics and Social Science, will hold the rotating chairmanship of the section for the first two-year term. He has been a professor at M.I.T. since 1944, when he inaugurated a senior course in international relations as part of the new Humanities Program.

During World War II, Professor Padelford served as consultant at the Department of State in Washington, where he was intimately connected with the planning of United States policy on the establishment of the United Nations organization and the preparations of peace negotiations. In 1944, he was a member of the United States delegation to the Dumbarton Oaks Conference on International Organization and, as Executive Officer at the San Francisco United Nations Conference, he had charge of the drafting of the statute of the World Court. In addition, Professor Padelford has served as United States Delegate to the London Conference on European Inland Transport, and as adviser to Secretary of State Byrnes at the Council of Foreign Ministers' London meeting on treaties of peace for the Balkan countries.

Regular Chapel Services Inaugurated

THE M.I.T. Chapel, designed to meet the needs of all religious faiths, is one of the few in the country to be used for regular services by Protestants, Catholics, and Jews alike. The United Christian Council at M.I.T. inaugurated regular daily services of morning prayer beginning on September 20.

Over the week end beginning Friday, September 16, Jewish services were held by Rabbi Herman Pollack, adviser to the M.I.T. Hillel Foundation, to usher in Rosh Hashana. Regular Jewish Sabbath and holiday services will be held in the chapel throughout the school year.

Roman Catholic Mass was celebrated for the first time in the chapel on September 20, by Father Edward J. Nugent, chaplain to the Technology Catholic Club. Such services will be held regularly throughout the school year.

The first Greek Orthodox service was held on September 22. Bishop Athenagoras, spiritual leader of the Greek Orthodox Diocese of New England and eastern Canada, officiated. Assisting Bishop Athenagoras in the service were the Very Reverend K. Samaras, Chancellor of the New England Diocese, and Father A. J. Metaxas, rector of St. Constantine Church in Cambridge. Father Metaxas, who is chaplain to Orthodox students at M.I.T., will conduct regular weekly services in the chapel.

The first Episcopal service was held on September 28. The Right Reverend Norman B. Nash, Bishop of the Episcopal Diocese of Massachusetts, was celebrant and the Right Reverend Anson P. Stokes, Jr., Bishop Coadjutor of the Diocese, was preacher. Weekly communion services for Episcopal students will be held on Wednesday afternoons throughout the academic year, and also on the morning of the first Wednesday of every month. Episcopal chaplains to the Institute are the Reverend Peter R. Blynn, assistant priest at the Church of the Advent in Boston, and the Reverend John Crocker, Jr., minister to students at Trinity Church in Boston.

The chapel is a part of a \$2,000,000 campus center at M.I.T. which was dedicated last spring.

Consultant to Dean of Students

UNDER a grant from the Fund for the Advancement of Education, Robert S. Hartman, associate professor of philosophy at Ohio State University, has joined the M.I.T. Faculty to serve as consultant to the Dean of Students at the Institute. In announcing the appointment, E. Francis Bowditch, Dean of Students at M.I.T., stressed its relationship to M.I.T.'s educational philosophy.

"In the current evolution of undergraduate education at M.I.T.," said Dean Bowditch, "there has been an increasing concern with value and a deepening concern with the development of the whole man as an integral part of professional education. This precedent-breaking appointment is an example of one of the many ways in which M.I.T. is trying to meet its responsibilities to prepare young men and women to lead and operate the complicated technical society produced by the application of science to the needs of man. It also reveals our recognition of the predicament of modern man in his attempt to find his own self in the complex of social and technological relations.

"While Dr. Hartman is with us we hope also to begin a program which will bring together various groups—Faculty, religious leaders, psychologists, and philosophers—for the discussion and handling of religious and philosophic problems and values at M.I.T."

While at M.I.T. Dr. Hartman will participate personally in the Institute's counseling program and will help the counseling staff analyze problems from the point of view of value theory and practice. He will also aid the Dean's Office in a review of the human and social values of M.I.T.'s current students' activities program. In addition, he will teach two undergraduate courses on value theory in the School of Humanities and Social Studies.

Dr. Hartman's special interest is in the field of ethics—a field which he feels will one day be recognized as a science in itself. He himself has given much of his professional life to developing a system of scientific ethics.

Born and raised in Berlin, Dr. Hartman received the degree of bachelor of laws from the University of Berlin in 1932. Previously he had studied at the German College of Political Science (1926–1927), the University of Paris (1927–1928), and the London School of Economics and Political Science (1928–

1929). In 1946 he received the degree of doctor of philosophy from Northwestern University.

He began his professional career as assistant on the faculty of law at the University of Berlin and as assistant judge (referendar) in the Berlin district court in Charlottenburg (1932–1933).

He became a copyright representative for Walt Disney in Sweden, and later in Mexico City, immigrating to the United States in 1941.

From 1942 to 1946 he was a master at Lake Forest Academy and from 1945 to 1948 instructor and then assistant professor at the College of Wooster. He joined the faculty at the University of Ohio as associate professor in 1948. Dr. Hartman has written extensively in theoretical philosophy and in economic and political philosophy, and he is a member of a number of philosophical and educational associations. He has been coeditor of *Kantstudien* since 1952.

Webster Professorship Announced

APPOINTMENT of G. Wesley Dunlap, prominent General Electric Company engineer, as a visiting professor at the Institute has been announced by C. Richard Soderberg, '20, Dean of the School of Engineering. Now manager of the Instrument and Nuclear Radiation Engineering Services Department for General Electric at Schenectady, Dr. Dunlap will be on leave from the company while at M.I.T. during the academic year which began in September.

Dr. Dunlap will be the third distinguished engineer to hold the Edwin Sibley Webster Professorship of Electrical Engineering, established by a \$400,000 grant in memory of Mr. Webster, who, with his M.I.T. classmate, Charles A. Stone, founded the consulting firm of Stone and Webster, Inc. Last year the chair was held by Robert A. Ramey, Jr., of Westinghouse Electric Corporation and the previous year the appointee was Professor Arnold Tustin of the University of Birmingham, England.

A native of Nevada, Dr. Dunlap did his undergraduate and graduate work at Stanford University and has been on the General Electric staff since 1936. During World War II he was assigned to Manhattan District and made important contributions to the atomic bomb in connection with the production of Uranium-235. Since the war Dr. Dunlap has participated in the development of such advanced equipment as cyclotrons, synchrotrons, particle accelerators, and radiation and electronic instruments.

Metropolitan



The week end of June 10 also included the celebration of the 30th reunion of the Class of 1925. Headquarters were located at the Hotel Continental in Cambridge.

At M.I.T., according to Professor Gordon S. Brown, '31, Head of the Department of Electrical Engineering, Dr. Dunlap will conduct a graduate course, give formal lectures, and make important contributions through consultation on research and guidance in plans for the Department as they bear on new efforts related to energy conversion and exploration of solid state devices, such as transistors, solar batteries, and magnetic amplifiers.

"We feel that in these times of extremely rapid progress in science it is very important for electrical engineers in academic and industrial fields to exchange ideas," Dr. Brown said. "Our Department of Electrical Engineering has been extensively reorganized in recent years and, especially because of the great shortage of engineers, it is indispensable that we continue to change in order to prepare our graduates to deal with the problems of the future. It will be useful, too, for a ranking member of such a company as General Electric to be in close contact with the basic studies that are being done at M.I.T."

Dr. Dunlap is a fellow of the American Institute of Electrical Engineers, a member of the American Physical Society, and a charter member of the American Nuclear Society. In 1942 he was awarded the Alfred Noble Prize of the American Institute of Electrical Engineers.

Administrative Promotions

ALBERT F. SISE, formerly executive officer of M.I.T.'s Servomechanism Laboratory, has been appointed personnel officer of the Institute, and G. Edward Nealand, '32, formerly manager of the Office of Laboratory Supplies, has become director of purchasing. Announcement of these two administrative promotions at the Institute was made by Joseph J. Snyder, 2-44, Vice-president and Treasurer of the Institute, after publication of the July, 1955, issue of *The Review*.

As personnel officer, Mr. Sise will be responsible for carrying out the established personnel policies of the Institute. He will be a member of both the Personnel Board and the Personnel Advisory Committee.

As director of purchasing, Mr. Nealand will assist Institute academic departments, administrative offices, and certain sponsored-research projects with their purchasing activities. He will also serve as chairman of a new committee—the Purchasing Council—the membership of which will consist of representatives from central administrative offices of the Division of Industrial Cooperation, the Division of Defense Laboratories, research projects, and laboratories at the Institute.

Mr. Sise is a graduate of the Browne and Nichols School and a member of the Class of 1928 at Harvard. A research associate at Harvard from 1930 to 1932, he did some of the early experimental work on the propagation of ultra high-frequency radio waves. From 1932 to 1942 Mr. Sise served in a number of engineering posts, including that of chief engineer with the Yankee Network. He was responsible for the construction of the Network's radio station on Mount Washington. Since 1942 he has been with the Division of Industrial Cooperation at M.I.T. where

during World War II he was a group leader in the Radiation Laboratory. He received a Certificate of Merit for his work on the development of radar. In 1945 he joined the staff of the Servomechanisms Laboratory at M.I.T. where he has been associate director and executive officer.

Mr. Nealand is a graduate of M.I.T., in the Class of 1932. He was with Carter's Ink Company from 1933 to 1946 where he served in the Engineering Department and in an administrative capacity in Personnel Relations and Production. He joined the M.I.T. staff in 1946 as assistant manager of the Division of Laboratory Supplies and became manager of the Division in 1947. A past chairman of the Educational Committee of the National Association of Educational Buyers, Mr. Nealand is secretary of the Boston section of the Association.

Boston Symphony Broadcasts from Kresge Auditorium

HISTORY was made in the field of music and television—to say nothing of the new history that was written at M.I.T.—on October 3 when the Boston Symphony Orchestra, conducted by Charles Munch, broadcast a complete concert from the Kresge Auditorium. The event was the first time the Boston Symphony gave a concert in the Auditorium, and it was the first time that a complete concert by a major concert orchestra was televised in the United States. Berlioz "Fantastic" Symphony, Debussy's "La Mer," and Ravel's "Daphnis et Chloé" could be heard on the frequency modulation channel of WGBH, while television Channel 2 of WGBH-TV brought the orchestra into view for those owning television sets in the general area of Boston. But the 1,200 persons who filled the Auditorium to capacity on this occasion benefited most and heard a concert such as is rarely performed, artistically and acoustically.

A superb performance by Charles Munch contributed to the favorable comments on this occasion, but so, too, did the unusual acoustic properties of the Kresge Auditorium. Speaking of the performance, the *Christian Science Monitor* said, editorially:

One hears this music as he never heard it before. He enters into a world of sound in much the same way as he would step into a world of crystal. The instruments suddenly come into a vivid focus. The entire orchestra is laid open to the listener, exposed in detail.

It was most fortunate for all concerned that this performance was by an orchestra of the first rank under a conductor like Charles Munch. Any lesser aggregation—any ensemble accustomed to making mistakes—would have been lost, for no mistake can be covered in this hall. The listener would not only perceive the mistake, he would know what instrument made it; and happily one can say that mistakes last night were almost nonexistent.

The *Boston Globe* on October 4 commented:

Last night's program was a demanding workout both for orchestra and for audience. It seemed calculated to test the acoustical properties of the hall. Berlioz "Fantastic" Symphony, Debussy's "La Mer," and Ravel's Second Suite from "Daphnis and Chloé" demand the highest technical expressions from the orchestra. Seldom have musical sounds been heard with such clarity and precision.

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As is always the case with any good new idea, reducing it to practicality required a lot of hard work. The mixing valve was readily obtainable from a valve specialist. Unexpectedly, difficulties arose in connection with the water tank. This is made of red brass, 85/15. Two almost identical one-quart cups are drawn from soft strip, the seam brazed, the necessary water connections brazed in, and the outside tinned.

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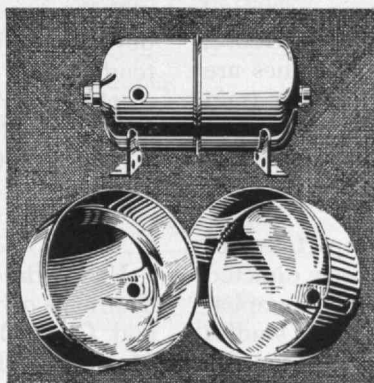
grain size of the unsatisfactory metal varied between .035 and .050 mm., and that holding the size closely to .050 mm. would cure the difficulty. In addition, suggestions were made as to die design, and die lubricants. Revere also was asked the reason for defects in brazing. This became another project for Revere Research, which sent a man to the plant to study the methods used. After some special work in the laboratory at Rome, N. Y., it was found possible to make a successful adjustment of conventional brazing

methods to the ones the fabricator wished to use. Still further, Revere's Methods Department recommended changes in the beading operation, ending breaking there. A Call Report written at the end of all this work states that the customer "is very enthusiastic in his praise."

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ALUMNI CONFERENCE

(Continued from page 30)

The term automation, said Professor Gould, originated in Detroit with the automobile industry and generally has come to designate a completely automatic factory. The term is not used much at M.I.T., since the term as used by the automobile industry does not include the important element of feedback, which is an essential part of modern industrial control operations. Industrial control problems, however, are now being given careful study at the Institute, especially in the Servomechanisms Laboratory, and the Department of Electrical Engineering.

Established during World War II, the Servomechanisms Laboratory was primarily engaged in research for military control operations, such as the development of fire control and guidance systems. At present, the emphasis in the Servomechanisms Laboratory is on the industrial applications of control and feedback systems.

An important outcome of research conducted at M.I.T., such as that now being done on servomechanism, is that it greatly stimulates the educational program. The research laboratories are the source of many theses of an intensely practical character. The topic of control cuts across all parts of the Department of Electrical Engineering, and even across all of the Institute's engineering departments. Hence, there is no one place where control techniques are concentrated. The tendency, therefore, is to train students to think broadly in terms of the behavior of dynamic systems whether the systems are actuated primarily by hydraulic, mechanical, electrical, or other means.

Professor Gould stated that, in the Department of Electrical Engineering, attention has been directed to dynamic behavior (process dynamics) with emphasis on techniques of control systems. Initially studies were made of industrial heat exchangers, built in the Department of Electrical Engineering, and there was developed a system that could be applied to control heat operations without interrupting plant production. In this interesting technique, the noise of turbulence of flowing liquids was measured and correlated with temperatures of the liquid. From such information the differential equations of plant operations were set up and these in turn could be related to the essential dynamic behavior of control operations.

Studies in the control of distillation operations were next undertaken from which the Department obtained the necessary background to set up servomechanisms for the control of distillation processes. Mixing of materials, and methods of controlling mixing, are other studies which have been, or are being, undertaken. In addition, the dynamics of life processes in connection with the Department of Biology, are also being studied. An artificial lung, which was designed and built at M.I.T. is one example of feedback technique applied to problems of health. An artificial kidney, too, has been made to work with servomechanisms controlling the pH of an essential body fluid. The Department of Electrical Engineering studies a wide range of problems, and the Servomechanisms Laboratory, as well as the Dynamics

Analysis and Control Laboratory, offer wide and varied experience in many fields. Students in Electrical Engineering, Mechanical Engineering, Physics, Mathematics, Civil Engineering, and other groups, operate to combine their knowledge so that the end product is the best possible type of control system, using whatever operating mechanism is the most suitable. With respect to means of activation, control systems devised at M.I.T. are not limited to electrical, hydraulic, mechanical, or other single means of operation. That combination of method is employed as will yield the best and most economical means of obtaining the desired control of dynamic operations.

At M.I.T. students are taught to regard a dynamic process as a whole, for the function of the system is considered to be more important than the physical means used to achieve the desired control. Students learn to think in terms of nonequilibrium problems, or in terms of system dynamics, which are closely related to problems of information theory. Although developed primarily in the field of electrical engineering, feedback cuts across many sciences and curricula.

Alumni Officers' Panel Meeting

Following the afternoon program on September 9 devoted to "Research Progress at M.I.T.," those attending the conference took part in several panel meetings to discuss problems in connection with Class and Club activities, or in connection with selection activities of the Honorary Secretaries.

Alumni Fund Program

Under the leadership of Theodore T. Miller, '22, chairman of the Alumni Fund Board, Class Agents and Class Officers met in the lounge of Hayden Memorial Library to discuss problems of class activities in fund raising. Mr. Miller complimented the Class Agents on the splendid work of the past year when more than \$500,000 was raised for the Compton Laboratories. Almost half of the Class Agents were present in addition to several Regional and Special Gifts Chairmen.

Mr. Miller outlined plans for the year ahead when there are to be two major objectives, in addition to raising funds for general purposes of the Institute. He spoke of the great need for scholarship money. At present some \$54 per undergraduate is available for this purpose. By comparison Harvard has more than \$200. This is to be one goal. The other goal is to obtain funds for the improvement of facilities for medical investigations — a field in which M.I.T. is doing outstanding work which will increase markedly with the completion of the Compton Laboratories.

In detailing the 1956 plans, Mr. Miller stated that two innovations which had met with great success last year, namely Regional Solicitation and Special Gifts Solicitation by classes would be expanded and intensified. He also told of the increasing importance and effectiveness of reunion giving on the part of all five-year classes through the Alumni Fund.

(Continued on page 44)

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Varnishes and Lacquers	High External Surface Area Favorable Refractive Index Non-settling	Flatting Suspending Agent Ease of Dispersion
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ALUMNI CONFERENCE

(Continued from page 42)

A lively discussion period brought out many ideas which will be given consideration by the Fund Board. The Class Agents seemed confident that Alumni generally would respond as never before to the very real and urgent needs which are this year's objectives.

Honorary Secretaries Discuss Admissions

Another group, meeting in the lecture hall of the Eastman Laboratories, under the chairmanship of Bruce F. Kingsbury, '44, discussed activities of the Educational Council and Honorary Secretaries.

There was an excellent attendance at the meeting, in spite of a very busy day. About 110 Council members were present at the conference, and the attendance at the work session was perhaps 150, including members of other groups. The whole Admissions Office staff was present, as was Erwin H. Schell, '12, Professor of Industrial Management, Emeritus, who had so much to do with initiation of the Honorary Secretaries in 1931.

In order that maximum use might be made of the hour available for discussion of admissions problems by this group, "homework assignments" had been mailed to all members of the Educational Council. On the basis of this material, dealing with admissions requirements for students planning to enter M.I.T., attention was focused on criteria for admission, all but excluding scholarship and related questions.

Six complete applications were selected and reproduced into a 60-page homework book; all names and indications of action taken were removed to avoid breaches of confidence. The Council members were then asked to act as Admissions Officers on these applications, and return their decisions on a postcard. In addition, they were asked to predict how well the students would do at M.I.T. These results were tabulated and posted at the meeting; 80 per cent of the group had done their homework. A large poster indicating a "Typical Application Chronology" was devised, which served to show the timing of every phase of an application, from the Council member's first contact at a high school through registration in September.

It was a very lively and interesting meeting which commenced with a discussion of the Admissions process, criteria for evaluating personality characteristics, and criteria for weighing and understanding the several measures of academic ability. Attention was focused on "homework applications" by having various Council members present a case to the group and support his decision to admit or to reject. There was a nice amount of disagreement among Council members and between Council members and Admissions Officers, so that discussion was spirited. Many valuable points were brought out in this manner — the most important being that everyone was convinced that there is no one type of candidate for M.I.T. They run a full and normal range of human personalities and a rather wide range of intellectual

abilities. Admissions — it was obvious — could be based on many combinations of these factors; a careful weighing of the characteristics of each individual applicant by experienced Admissions Officers, utilizing the judgment which comes only from experience.

This work session served to orient the Council members; to give them a gauge of their own interviews and activities and to give them a far better picture of how their own activities fit into the Admissions selection process.

Alumni Clubs

The third group, under the chairmanship of H. E. Lobdell, '17, Executive Vice-president of the Alumni Association, met in the Moore Room of the Eastman Laboratories and discussed problems of concern to club officers. Mr. Lobdell opened the meeting by introducing Dwight C. Arnold, '27, President of the Alumni Association for the year 1955–1956, and Miss Madeline R. McCormick, Assistant Treasurer of the Association.

From considerable experience with the 92 alumni clubs during the past six years, during which time he has traveled some 325,000 miles, Mr. Lobdell outlined the activities of alumni clubs, pointing out that local conditions usually do and should determine the number and character of meetings held by the clubs. Although many clubs have similar problems and often meet them in similar manner, this is by no means universally true. Whereas some clubs find it advantageous to meet once a month, some, on the other hand, meet only once a year or at infrequent and irregular intervals.

Mr. Lobdell also briefly reviewed the growth of Regional Conferences, the first one of which was held in Chicago in 1951. During the past year, particularly successful conferences were held in Dallas and Cleveland; for the coming year conferences are scheduled to be held at Los Angeles and in St. Louis.

Mr. Lobdell then called on various persons to comment on activities of the clubs they represented. Those taking part in this discussion included Joseph E. Conrad, Executive Secretary of the M.I.T. Club of New York; Horace E. Weihmiller, '25, M.I.T. Club of Long Island; * Dale D. Spoor, '22, M.I.T. Club of Westchester; * Russell P. Westerhoff, '27, M.I.T. Club of Northern New Jersey; Arthur W. Davenport, '23, M.I.T. Club of Virginia; F. David Mathias, '36, M.I.T. Club of Quebec; George J. Fertig, '24, M.I.T. Club of Alabama; Antonio H. Rodriguez, '21, M.I.T. Club of Cuba; and Bernardo Elosua, '23, M.I.T. Club of Monterrey, Mexico.

Reception at the President's House

Between 6:00 and 7:00 P.M. on Friday evening, those attending the Alumni Officers' Conference were guests of Dr. and Mrs. Killian at the President's House where refreshments were served in the garden. This pleasant occasion provided opportunity for Alumni to relax from their "refresher courses" and to make new friends.

(Continued on page 46)

*Affiliate M.I.T. local club.

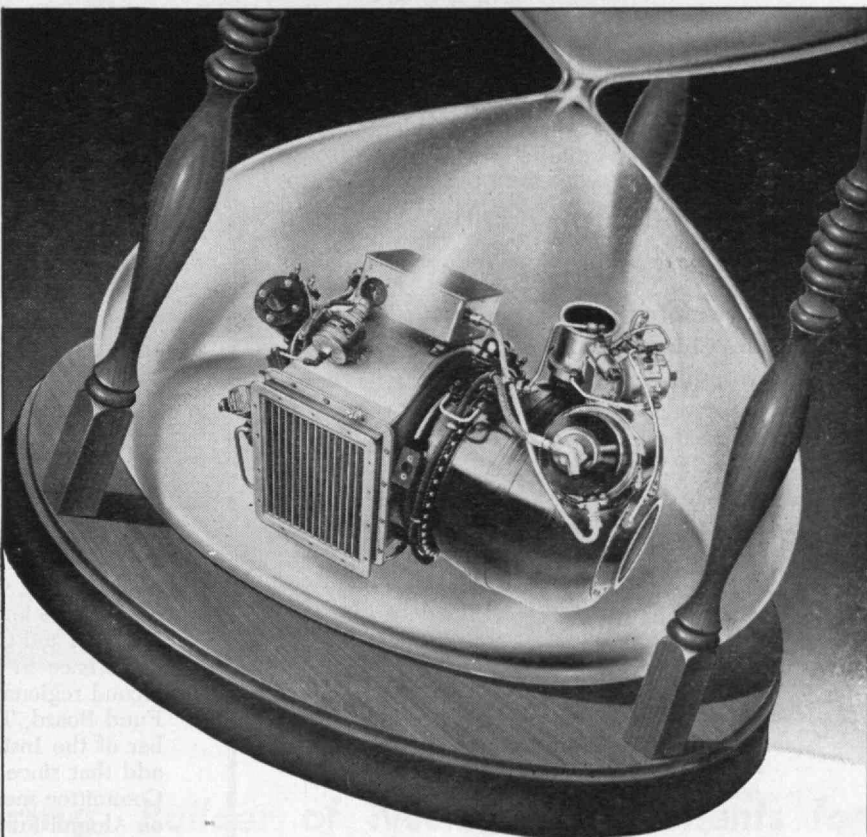
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ALUMNI CONFERENCE

(Continued from page 44)

Dinner at Walker

At 7:00 P.M. a buffet dinner was held at Walker Memorial, which had recently been renovated, repaired, and repainted, and supplied with new furniture. The tables and chairs were so new, in fact, that an adequate supply to accommodate all those in attendance arrived only on the day of the conference.

Upon conclusion of a delicious meal, made doubly attractive by the artistry of Walker chefs, Mr. Arnold opened the business portion of the dinner meeting by paying tribute to the chefs. He then reported on the origin of the conference, as follows:

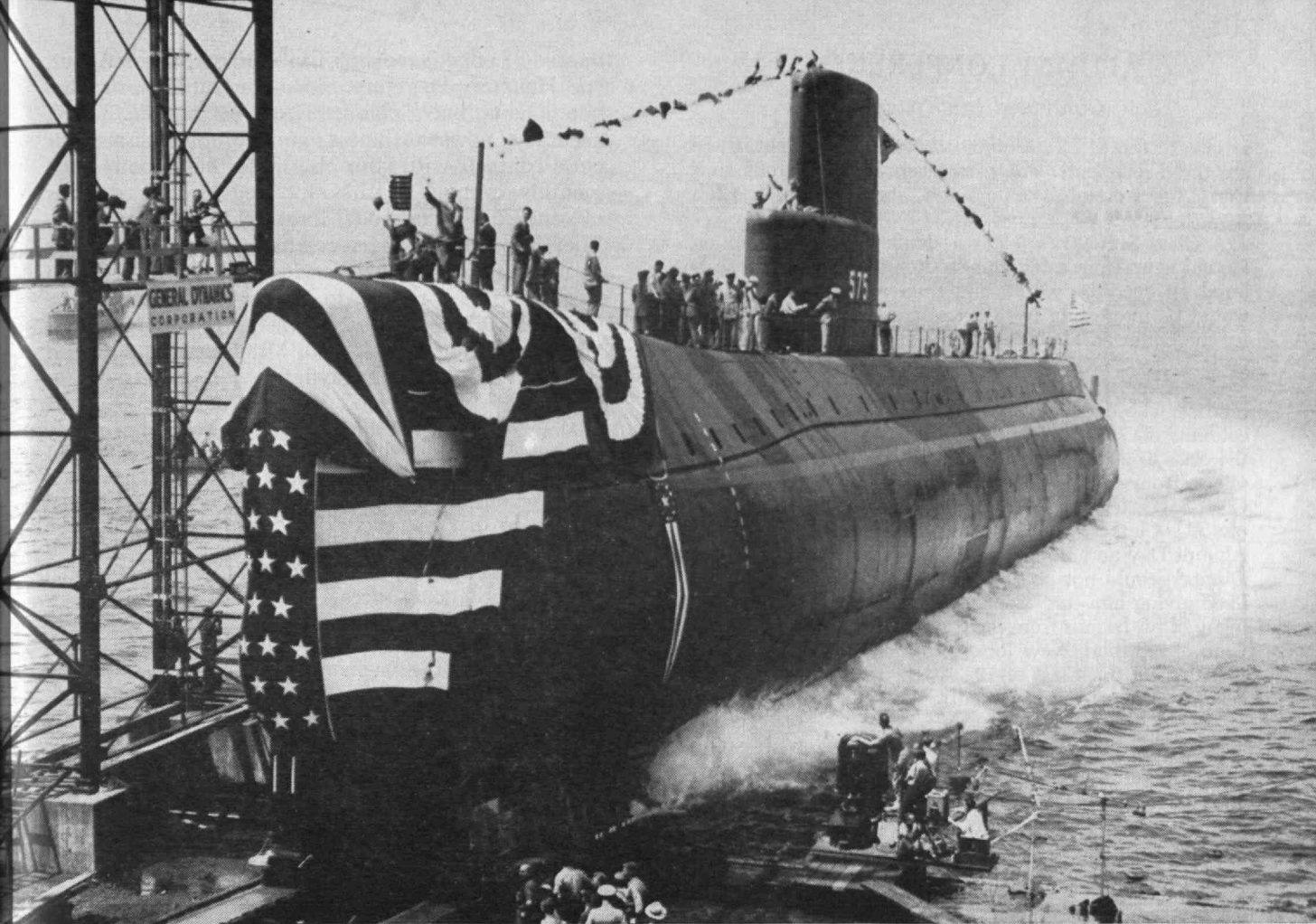
At this time it is probably appropriate that I mention briefly the origin of this Alumni Officers' Conference. Over a year ago—in May, 1954, to be exact—the Executive Committee of the Alumni Association invited Jim Killian to spend an evening with them discussing ways in which the Association might be of greater help to him and to M.I.T. To us of the Association that was a particularly successful evening. We greatly appreciated the chance to learn firsthand of some of the Institute's problems and challenges as seen from the President's Office. But there were very tangible results of that evening. As some of you know, at President Killian's request the Association has since been nominating three alumni members to each of the Corporation's Departmental Visiting Committees—instead of two which had been the previous practice. We were encouraged to conduct two regional conferences instead of one each year. Last year they were in Dallas and Cleveland. This year there will be a regional conference in St. Louis, and Los Angeles will have its second regional conference. The chairman of the Alumni Fund Board, Theodore T. Miller, '22, was made a member of the Institute's Development Council, and I might add that since then he has been attending all Executive Committee meetings and conducting bi-weekly meetings on Alumni Fund matters with Henry B. Kane, '24, Director of the Alumni Fund, H. E. Lobdell, '17, and Donald P. Severance, '38, Executive Vice-president and Secretary, respectively, of the Alumni Association. These are some of the results of that one meeting. This conference is another result of that meeting. Let us hope that this conference in turn, leads to further ways of our being of help to M.I.T. and to further refinements in our current methods.

One other point about this week end's conference. We have packed a lot of material into one and one-half days. But no matter how much we packed into this program, we obviously could not bring into this conference representatives of all five of M.I.T.'s schools. We wished we could. But, would the two Deans who escaped participation in this year's program please keep their calendars free for an invitation from the committee responsible for our next Alumni Officers' Conference.

Bronze Beaver Awards

President Arnold then turned the meeting over to Hugh S. Ferguson, '23, Past President of the Alumni Association. Mr. Ferguson then made the first Bronze Beaver Awards for distinguished service to the Alumni Association. Said Mr. Ferguson:

It was very thoughtful to give me this opportunity to present the first Bronze Beaver Awards for distinguished
(Continued on page 48)



Launching view of the Seawolf, America's second nuclear-powered submarine, for which Combustion built the reactor vessel and other components of the nuclear power system.

Combustion Engineering, Builder of Nuclear Components for Seawolf, becomes Third Major AEC Contractor to enter Naval Reactor Development Program

On August 11, the Atomic Energy Commission announced the award of a contract to Combustion Engineering for the design, manufacture, assembly and test of a submarine nuclear power reactor and its related equipment. Only two companies had previously been awarded such contracts—the Westinghouse Electric Corporation and General Electric Company.

Combustion brings to this important assignment the experience already gained in building the reactor vessel and other related components for both the Seawolf and its prototype in the sphere at West Milton, N. Y., which recently became the first nuclear source of commercially distributed electricity for public use. This experience is further augmented by design, research and development

work in the field of atomic power over the past eight years, including the manufacture of the reactor vessel, presently in process, for the AEC-Duquesne Light plant—the country's first commercial-size nuclear power station.

In executing its AEC submarine contract, Combustion will utilize new manufacturing facilities now being erected at its Chattanooga plant, plus additional facilities to be established in a new Nuclear Engineering and Development Center scheduled for completion in 1956. *Thus Combustion Engineering will become the first company in the country to provide its own facilities for the construction of a naval nuclear reactor.*

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ALUMNI CONFERENCE

(Continued from page 46)

service to the M.I.T. Alumni Association. Tonight, there are three recipients: one to a Class Secretary, one to a Class Agent of the Alumni Fund, and the third, a Club Award.

A Class Secretary's job is a thankless one. Extracting factual news from a few hundred elusive classmates scattered all over the world, and then writing it so that it would be interesting to the class and yet concise enough for the editor of *The Technology Review*, is a monumental task.

Our Association is fortunate in having many Class Secretaries whose effectiveness is evident not only in the columns of *The Review*, but also in the effectiveness of the class as a whole. It was difficult for the committee to select, from so many, one to honor tonight. To the one Class Secretary chosen in 1955, unfortunately, Cac [Carole A.] Clarke, who is usually present at our annual Alumni Day and Educational Council and Club Officers' Dinners, could not be with us tonight, for I would have liked giving him this Bronze Beaver in the presence of so many of his friends from the Class of 1921 and the M.I.T. Club of Northern New Jersey. In his absence, would the President of the Class of 1921 — Raymond St. Laurent — accept this award in his behalf?

Mr. Ferguson then turned over to Mr. St. Laurent the Bronze Beaver Award first to be awarded to a Class Secretary. The inscription accompanying this Alumni Award stated:

"For more than 30 years you have served M.I.T. and your fellow Alumni with enthusiasm and a high

degree of effectiveness as Club Officer, Class Agent, and Honorary Secretary. Since graduation your class notes have been characterized by a consistency, accuracy, newsworthiness, and completeness. Your close contacts with your classmates have made your monthly columns a true reporting of the activities of your class and a model for other Class Secretaries. Therefore, in grateful recognition, the 1955 Bronze Beaver for distinguished service to the M.I.T. Alumni Association is awarded to Carole A. Clarke of the Class of 1921."

After reading this citation, Mr. Ferguson resumed presentation of awards, saying:

Many of the men in the room tonight have been closely associated with the Alumni Fund since its beginning 15 years ago. Many of you have had a part in personal solicitation within the classes, and still others in the regional solicitation that was successfully tried this year for the first time. We all were anxious that this past year's Fund — devoted as it was to the Karl Taylor Compton Memorial — be an outstanding success and a real tribute. I know we all were truly gratified when Mr. Miller was able to report on Alumni Day that the Alumni Fund had beaten all previous records for numbers of contributors and had been able to turn over to the Institute more than a half million dollars. Before presenting this next award to a Class Agent of the Alumni Fund, I want to add my personal appreciation and that of the Alumni Fund Board, to all who helped us make the largest single stride since the founding of the Fund, with particular thanks to the Class Agents, the backbone of the Alumni Fund. And now — to the Class Agent chosen in 1955, will Alf K. Berle, '27, please step forward?

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In presenting the Bronze Beaver Award in recognition of Mr. Berle's outstanding services as Class Agent, Mr. Ferguson read the citation that went with it, as follows:

"Since the inception of the Alumni Fund, you have served your class, the Alumni Association, and M.I.T. as Class Agent for the Alumni Fund. You have used imagination and initiative far beyond the usual requirements of this office in the performance of your duties. Your complete co-operation has resulted in the establishment of the very effective special gifts program. Under your leadership, your class has been a consistent leader in the financial support of M.I.T. Therefore, in grateful recognition, the 1955 Bronze Beaver for Distinguished Service to the M.I.T. Alumni Association is awarded to Alf K. Berle of the Class of 1927."

Mr. Berle received the award with grateful appreciation and Mr. Ferguson continued:

Making the two previous awards was easy, because they were to men I know personally. However, a Club award is like a regimental citation — one given in recognition of the joint efforts of many hands and minds applied to a common cause. Some of you here today attended the Regional Conference in Dallas on January 29 of this year — a conference which I wish all of you could have witnessed. It is in recognition of this fine meeting that we make next a Club award.

Would J. Russell Clark, '29, and Jonathan A. Noyes, '12, of the M.I.T. Club of Northern Texas, step forward to receive this award for the clubs of the Southwest and for the Dallas Club in particular — and please take back congratulations to the other members of your committee,

especially Edward O. Vetter, '42, who was chairman and Cecil H. Green, '23, then President of your club.

As these two Alumni from the Southwest came forward, Mr. Ferguson read the text of the citation:

"To the M.I.T. Clubs of Dallas, Fort Worth, Houston, Mexico City, Monterrey, New Orleans, and Tulsa, who sponsored the fifth regional conference of the Alumni Association, greetings. The thoroughness of your planning, the smoothness of your operation, and the news coverage you gave this conference all set a new standard for future meetings. Your concerted energy in gathering some 400 Alumni and industrial and civic leaders to this meeting made it an event outstanding in the Association's history; therefore in grateful recognition, the 1955 Bronze Beaver for Distinguished Service to the M.I.T. Alumni Association is awarded to the M.I.T. Clubs of the Southwest and placed in the custody of the M.I.T. Club of Dallas."

Mr. Ferguson then turned over to Mr. Noyes, the award, as shown at the bottom of page 28, and Mr. Clark made brief response of appreciation on behalf of those honored by this presentation.

Upon presentation of the Bronze Beaver Awards, the meeting was once again turned over to Mr. Arnold who paid tribute to Mr. Ferguson for his leadership last year as President of the Alumni Association. Despite heavy obligations to the firm of Dewey and Almy, of which he is the head, Mr. Ferguson found it possible to attend every meeting

(Continued on page 50)

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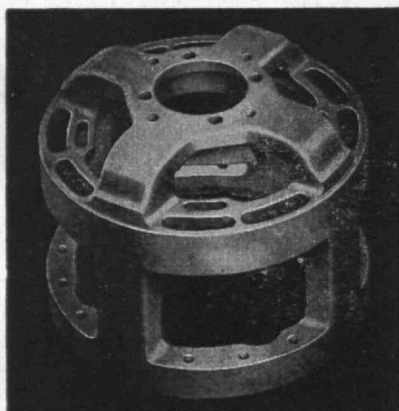
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ALUMNI CONFERENCE

(Continued from page 49)

of the Alumni Council. In addition, he was present at both Regional Conferences. Mr. Arnold then presented a gavel to Mr. Ferguson in recognition of his year of leadership of the Alumni Association.

In response, Mr. Ferguson stated that the past year had been one of the most satisfying years of his life. He mentioned especially the fine spirit of co-operation that he had enjoyed at every turn, and said that, despite a busy year, the post as President of the Alumni Association has been full of satisfaction.

Alumni Role in M.I.T. Progress

Mr. Arnold then introduced James R. Killian, Jr., '26, M.I.T.'s President, who was obviously touched by the welcome he received and the spirit of the occasion. He had no idea so many loyal Alumni would attend the First Alumni Officers' Conference. President Killian then commented on the recent re-decoration of Walker Memorial and interpreted the murals for the benefit of those who had not previously heard their meaning. He then paid tribute to Lester D. Gardner, '98, who, almost singlehanded, had raised \$350,000 for the Jerome C. Hunsaker Professorship in Aeronautical Engineering. Tribute was also paid to the Alumni Association whose 1955 Fund, of more than one-half million dollars, served as a fitting tribute to Karl T. Compton, in whose honor the Fund was raised for new laboratory buildings in the physical sciences, which building is now under construction. Dr. Killian then delivered his major address, which, in part, is as follows:

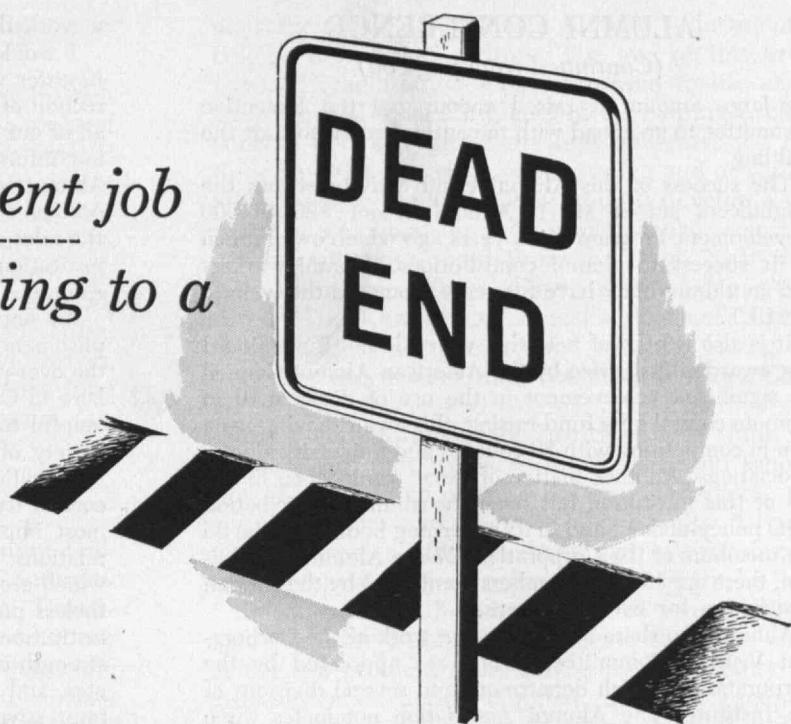
We here at M.I.T. deeply value this opportunity to meet with you. We welcome too the opportunity of expressing to you in person our deep sense of appreciation for what you individually and collectively are doing for M.I.T. As honorary secretaries, members of the Educational Council, class officers or class agents, your contribution of time and interest is important to the welfare of technology. I know of no institution which commands more constructive loyalty on the part of its Alumni and in which alumni attitudes and relationships so effectively avoid the trivial and stress the basic aims and functions of the institution.

This meeting also affords me an opportunity to note with gratitude a variety of specific accomplishments of the Alumni Association and its constituent bodies. First, I would speak of the Alumni Fund which I had an opportunity to observe being established some 15 years ago. Since its foundation it has grown to be one of the most successful living endowment activities in the country with alumni contributions to the Institute ranking in the upper 10 among all the institutional groups in the country.

Since the Alumni Fund was started, Alumni have contributed to it a total of \$2,539,125.25 to the Institute. The Alumni Fund made possible among other things the building of additional tennis courts at the Institute, the completion of the Hayden Memorial Library and climactically during this last year, it raised over half a million dollars for the Karl Taylor Compton Memorial Laboratories, this bringing an equivalent amount into the total sum of \$7,000,000 which we are trying to raise for this project. In fact, it is fair to say that the success of the Alumni Fund has insured the success of this project and

(Continued on page 52)

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ALUMNI CONFERENCE

(Continued from page 50)

the large amount it raised encouraged the Executive Committee to go ahead with the authorization to start the building.

The success of this Alumni Fund activity echoes the magnificent aid of M.I.T. Alumni in our \$20,000,000 Development Program of six years ago which owed much of its success to alumni contributions. Alumni workers and an alumni body have for years promoted the welfare of M.I.T.

It is also worthy of note that your Alumni Fund Board was awarded first prize by the American Alumni Council for significant achievement in the use of direct mail to promote capital gifts fund-raising, this award having been won in competition with 83 colleges and university alumni associations. Another matter of great significance in the life of this institution has been the alumni participation in its policy-making and in its governing bodies. Of the 35 life members of the Corporation, 27 are Alumni. In addition, there are 15 term members nominated by the Alumni Association for five-year terms.

Alumni also share actively in the work of the Corporation Visiting Committees which are appointed by the Corporation for each department and several divisions of the Institute. The Alumni Association nominates three members for each of these Visiting Committees in addition to the members of the Corporation and the presidential appointments which make up each committee.

Both our honorary secretaries and the Educational Council have contributed importantly to the spotting, encouragement, and selection of students at the Institute,

a work that will most certainly increase in importance.

I would also call attention to the new 1955 *Alumni Register* which has been prepared wholly under the direction of your Alumni Officers. Seventy-five per cent of all of our former students returned questionnaires providing information for this *Register*, and its sales among Alumni have been sufficiently large to cover the major portion of its cost. It is interesting to note further that the sales of our *Alumni Register* exceed those of our sister institution, Harvard, which has three times the number of Alumni.

As important as these special activities and accomplishments of the Alumni Association and its members is the ever-present helpfulness of our Alumni for those of us here in Cambridge. I repeatedly find it wise and always helpful to go to many of you for help and advice on a variety of policy questions that come up about the administration of the Institute, and I never fail to receive a cordial response. Perhaps this kind of relationship is the most important of all the many aspects of our alumni relations, the imponderable effects of interest and loyalty which are hard to record in specific ways but are nevertheless powerful factors in the corporate strength of the institution. The real test of this corporate vigor and strength is to be found in the achievements of our graduates, and from where I sit, this seems to be increasingly impressive. The Alumni of this institution collectively represent one of the major forces for strength, for progress, and stability in this country, and their influences are enormous both in professional and national life. One has to occupy a vantage point such as mine in order to appreciate fully such an impressive record. Let me cite just one statistical fact: in a recent year, M.I.T. Alumni



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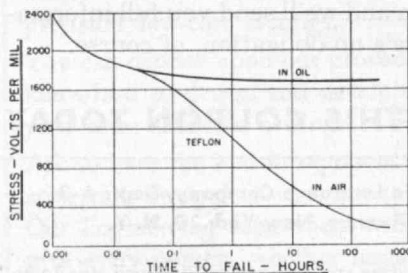
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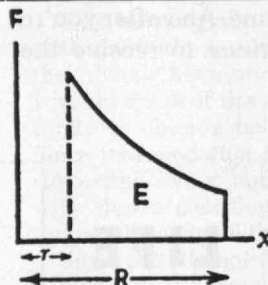
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sive vapors, acids and solvents. Wet locations do not affect operation.

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THIS GRAPH shows voltage-life tests of Teflon film 0.005" in thickness. Note the comparative long life of Teflon protected with oil. BIW process for manufacturing Teflon insulated cables protects with dielectric oil.



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held the presidencies of 12 national professional organizations.

Mr. Arnold concluded the evening meeting by calling the names of those who had traveled the greatest distance in attending the conference. Those singled out for special mention in this connection were: Antonio C. M. Nunes, 2-46, of Rio de Janeiro; Antonio H. Rodriguez, '21, of Havana; Bernardo Elo-sua, '23, of Monterrey; Gaynor H. Langsdorf, '32, from San Francisco; William H. MacCallum, '24, from San Marino; Barrett B. Russell, 3d, '43, Tulsa; Messrs John R. Clark, '29, and Jonathan A. Noyes, '12, Dallas; Kenneth H. Klopp, '32, Spokane; John Ayer, Jr., '36, Denver; and Earl L. Bimson, '43, Phoenix.

Student Government

After breakfast at Baker House the Alumni Officers' Conference continued at 10:00 A.M. on Saturday morning, September 10, with a session on "Undergraduate Student Government at M.I.T.," held at the Kresge Auditorium. Norman C. Dahl, '52, Associate Professor of Mechanical Engineering, and chairman of the Freshman Advisory Council, presided.

Professor Dahl opened the session by reviewing the origin and current operations of the Freshman Advisory Council, which is a group of 70 Faculty members each of whom is particularly interested in student problems and has taken responsibility for

assisting about 15 freshmen in their adjustment to college life at the Institute. The aim of this group is to: (1) facilitate a better transition to life at the Institute and to aid students in developing a closer contact between professors and students; (2) continue study of the needs of counseling and of student adjustment to life at the Institute; (3) develop a program of guidance on professional course selection.

"You will note," said Professor Dahl, "that there is no reference in these objectives to what might be called 'The Law of the Squeaking Wheel'; that is, the Faculty is not preoccupied with the failing student, nor did it want the Freshman Advisory Council to be so preoccupied. We are, of course, distressed when a student fails at the Institute, but I think it is equally true that we were more distressed when a boy of outstanding promise has only a mediocre performance. The aim, then, of the Faculty Advisory Council was to aid each freshman in realizing his own potential, at whatever level this might be."

In contrast to the views held at some colleges, said Professor Dahl, M.I.T. believes that wise counseling is a problem to be solved by the Faculty and Administration acting together, and that except in unusual circumstances, student committees should not be relegated to "professional" counselors, such as physicians, psychiatrists, or psychologists. "We realize that there are instances when professional or psychiatric or guidance work is necessary" said Pro-

(Continued on page 54)



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ALUMNI CONFERENCE

(Continued from page 53)

Professor Dahl, "but we also believe that the most desirable educational situation is that where the rapport between the student and Faculty is such that the student is willing to trust the Faculty member with some of his personal problems. This leads to better mutual understanding, and if we believe in the tenet that knowledge brings understanding, the effect on the educational process must be beneficial."

Professor Dahl then explained the operation of the Freshman Advisory Council; how freshmen meet their Faculty advisers who get to know a small group of students well; how the students have opportunity to visit their Faculty adviser in his home; how they may come to him for advice on problems — academic or otherwise — throughout the year, and how the Faculty adviser attempts to aid the student by discussing and analyzing the student's problems so that the student can make his own decisions regarding questions that have bothered him. Faculty members do not attempt to function as "a parent away from home" but rather as an older, sympathetic friend who will help the student in the problem of adjusting to college life and mature living.

In recent years an important activity in enabling freshmen to adjust to their new life at the Institute has been the comments the Institute receives from parents and headmasters after the student is admitted to M.I.T. These are available to the freshman advisers and frequently enable him to aid the new student in overcoming difficulties that might otherwise not be discerned.

Dormitory Living

Professor Dahl then introduced Herbert S. Amster, '56, chairman of the Dormitory Council, who spoke on dormitory life at the Institute. Mr. Amster stated that the newness and strangeness of coming from a small high school (where the student is well known) to a large college (where he is virtually unknown) is a major hurdle for most freshmen to make. The orientation program which is given to freshmen as they come to M.I.T. is an important matter in overcoming this strangeness. The closeness of student living in dormitory units also is an effective method of overcoming this hurdle. The freshman lives next door to, and eats with, other students who have the

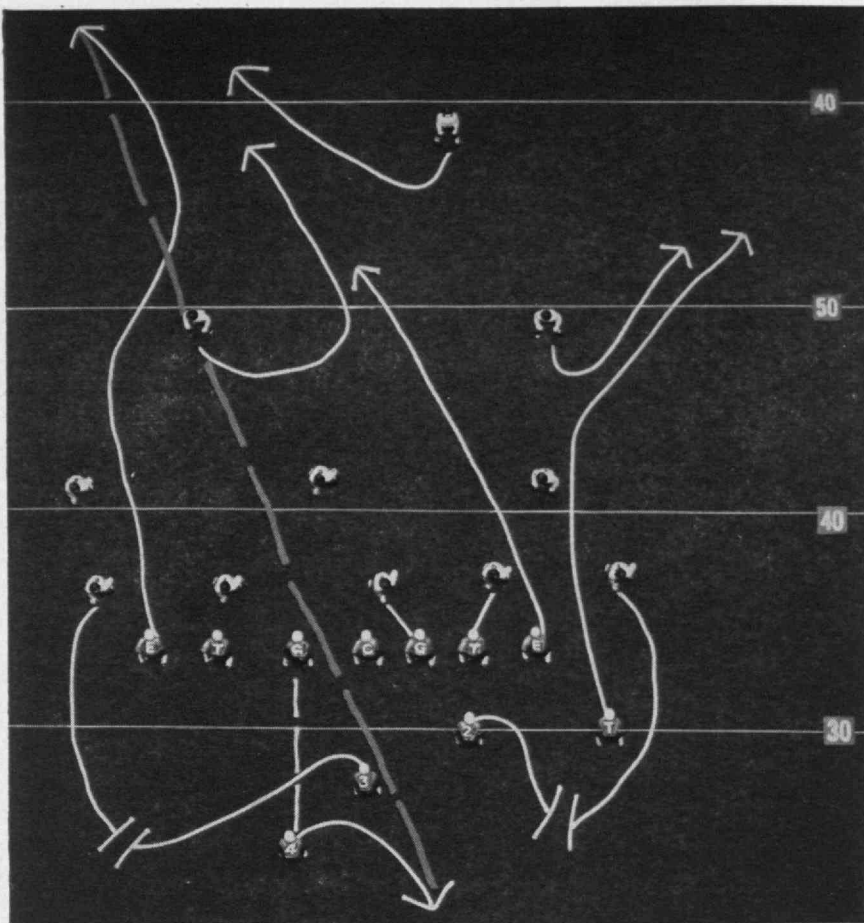
(Continued on page 56)

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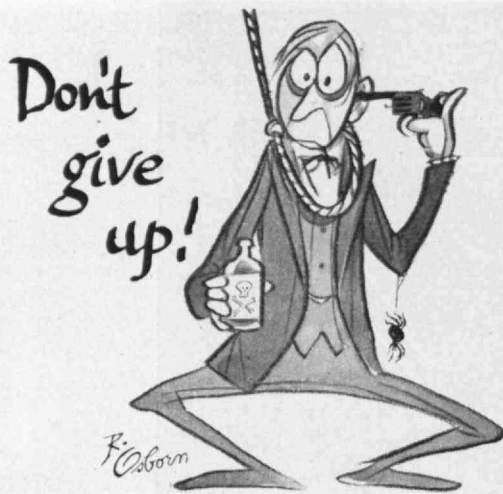
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(Continued from page 54)

same aims, aspirations, and ambitions as he does; he gets to know most of his dormitory associates quite well. He can close himself up and lead a life of seclusion if he insists on so doing, but he can also make friends, and develop his individuality and maturity through dormitory living.

The student living in the dormitory has a good social life. He is encouraged to participate in intramural sports and he can participate in dormitory government, for the dormitories are operated by rules which the students themselves establish and administer. Thus the students learn the meaning of accepting responsibility for their own actions, early in their life at the Institute, said Mr. Amster.

Each dormitory has a Faculty resident adviser to whom the students may go for advice and the development of friendship, but this adviser takes no part in student government; he does not serve as a policeman or an overseer.



Each of the three major dormitory units — East Campus, Baker House, and Burton House — has a Dormitory Committee with a student as chairman. There is also a co-ordinating committee which co-ordinates activities of the three dormitories. These groups of students are concerned with such problems as living conditions in the dormitories, study conditions, eating facilities, recreational and athletic activities and so on. The student government establishes rules of conduct for its own dormitory residents, solves problems which may arise as the result of damage to property, and thus develops awareness of other people's property. It is concerned with social life in the dormitories, and the orientations that are necessary to bring together groups from different parts of the country or even from different parts of the world.

Fraternity Problems

As chairman of the Interfraternity Conference, George W. Luhrmann, Jr., '56, spoke on the educational and social opportunities which were provided for those living in the fraternities at M.I.T. So far as the Institute is concerned, its policy with respect to students living in the fraternities is the same as that for students living in the dormitories — each student shall be responsible for his individual action, and the Administration sets few, if any, restrictions beyond the expectation of gentlemanly behavior on the part of its students.

Mr. Luhrmann reviewed, briefly, a conference held last year at the Institute at which M.I.T. students discussed the problems of discrimination. Mr. Luhrmann reported that the desirability of judging a person on his individual characteristics and merits was clearly recognized, but pointed out that the charters of fraternities sometimes had membership restrictions incorporated in them, and that a revolutionary, rather than evolutionary approach to this problem might easily jeopardize the fraternity system in the country as now set up. It was recognized that this —

(Continued on page 58)

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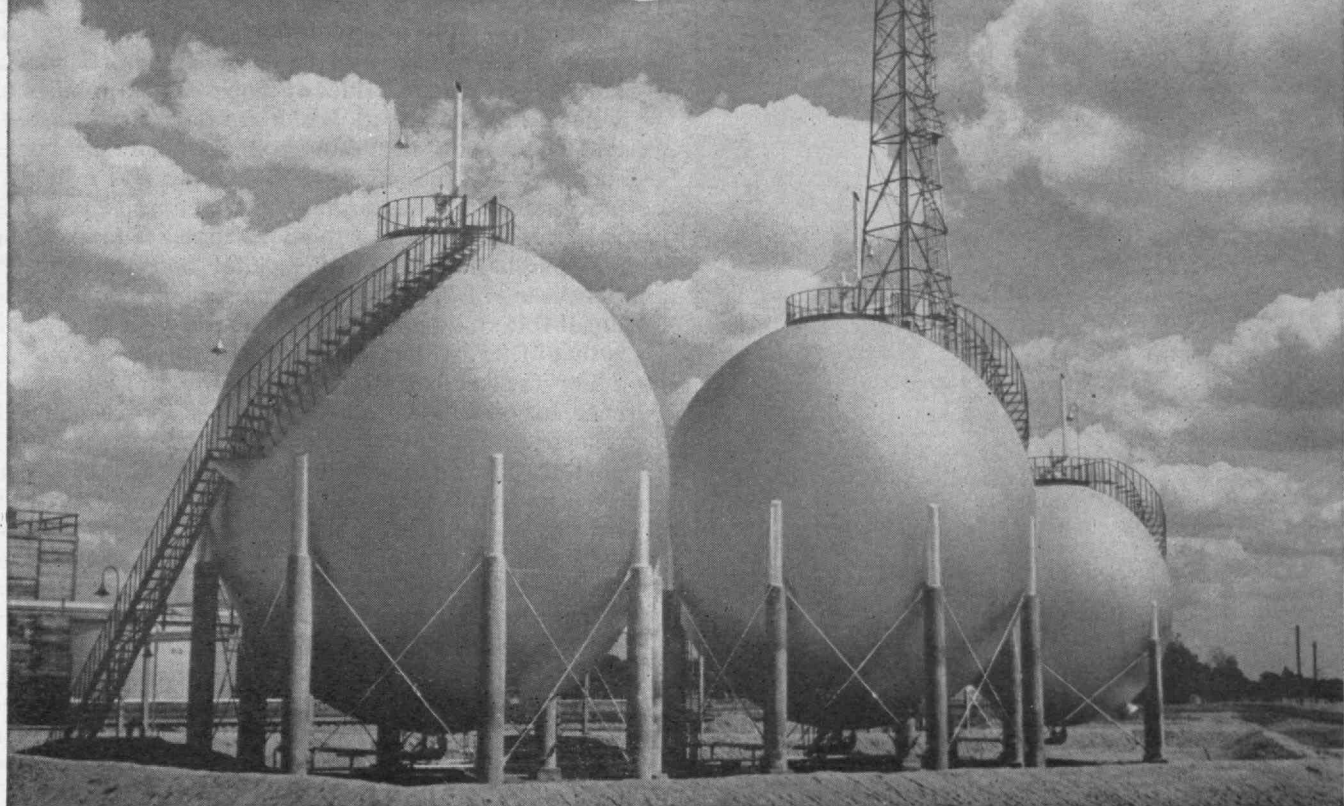
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ALUMNI CONFERENCE

(Continued from page 56)

and many other problems of student living — are solved from within, by the students themselves, rather than by attempting to impose co-operation.

The aim of those living in fraternities is to stimulate such modes of living and conduct as will maximize development and maturity of the students. Toward this end the fraternities are concerned with the scholarship records made by their members. At the present time the scholastic record of those living in the fraternities is the same as that for the student body as a whole. The fraternities have set up awards for the highest ratings in the 27 fraternities, as well as awards recognizing greatest improvement. Another award is set up for that fraternity house whose pledges make the best scholarship record.

The Interfraternity Conference assumes responsibility for rushing activities at the Institute; publishes a news bulletin called *Fraternity Times*, stipulates that houses on the campus must maintain high standards of conduct as well as proper and suitable procedures in their business transactions; and provides for an exchange of information on marketing and purchasing for the benefit of house stewards. Last year M.I.T. fraternities won second place in national fraternity competition, and this year the hope is that M.I.T. will do even better.

For the coming year the Interfraternity Conference has among its objectives the improvement of scholarships among fraternity men and further work on the problem of discrimination. Work has been done toward having WMIT, the local radio broadcasting system, feed programs to the fraternities as well as to the dormitories. The Interfraternity Conference is also giving consideration to hastening the recent change from "hell week" to "help week," as well as to problems that require solution with regard to the possibility of gradually moving fraternity houses from Boston to the Cambridge side of the Charles River, said Mr. Luhrmann.

Final speaker on the morning program of undergraduate student government was John S. Saloma, '56, chairman of the Institute Committee, who presented "An Evaluation of Student Government." Readers of *The Review* will find Mr. Saloma's remarks presented as a feature article on page 31 of this issue.

Upon conclusion of the morning discussion on "Undergraduate Student Government at M.I.T.," laboratories, as well as the library, were open for in-



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spection of those attending the Alumni Officers' Conference. It was not expected that each conference attendant would visit all of the laboratories open for the occasion but rather that he would elect to visit one or two which were of greatest interest.

Luncheon at the Faculty Club

The conference ended with a luncheon at the Faculty Club at 12:30 P.M. on Saturday, September 10. John J. Wilson, '29, was master of ceremonies for this event, and Edward L. Cochrane, '20, Vice-president for Industrial and Governmental Relations, was the luncheon speaker.

Admiral Cochrane's address, which served as epilogue and summary of two-days' events, commented on the growth and changes which were certainly clearly evident to those who attended the conference, and pointed out that change does not necessarily mean improvement. Nevertheless, there has been, and continues to be, a steady trend of real progress in the Institute's forthright program under President Killian who has won the enthusiastic support of members of the Administration, the Corporation, the Faculty, and Alumni.

Brief outlines of some of the work going on at the Institute have been given by Deans Harrison, Burchard, and Soderberg, commented Admiral Cochrane. But there is growing complexity in our technological way of life, and only a brief picture of the manifold activities of M.I.T. could be unfolded in the day and one-half conference. The human species is growing mentally as well as physically, and the demands now being placed on students are proceeding at an alarming speed. The need for technically trained personnel is hardly now met by the supply, and the outlook for the future is not too bright, unless much greater attention is given to this problem, said Admiral Cochrane. The Institute's greatest problem is to maintain the quality of its education, while simultaneously doing what it can to help meet the need for increasing numbers of competent and technically trained personnel.

For a number of years one of the things the Institute has been doing to meet the growing need for science teachers is to hold summer sessions at which a selected group of secondary school teachers receive a refresher course in the physical and biological sciences. This program, it is expected, will ultimately enable the Institute to turn out better

(Continued on page 60)

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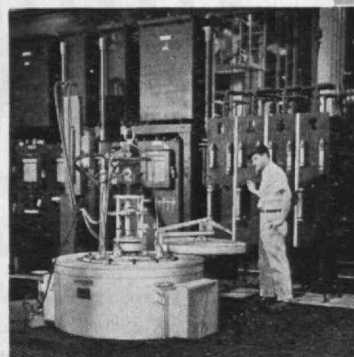
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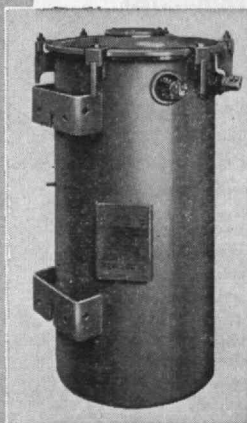
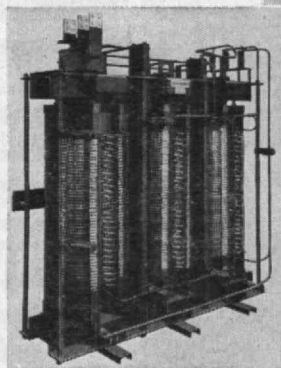


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ALUMNI CONFERENCE

(Continued from page 59)

trained graduates, for, in a very real manner, science teaching in the secondary schools affects the Institute's admissions program. More important, the properly qualified teacher can often stimulate a student to enter science or engineering, who might otherwise elect to pursue other fields. Admiral Cochran pointed out that, ultimately, it might be possible to make up for a lack of adequate teaching at the high school level, but it is not possible to make up for neglected opportunities to inspire and encourage properly qualified students to enter technological fields of activity if the opportunity is missed.

Another program of training secondary school science teachers, originally related by Joseph W. Barker, '16, was reported by Admiral Cochran. Secondary schools in Niagara Falls arranged to provide a training program for their science teachers, in order that their grasp of science and engineering might be improved and better instruction passed on to their students. Business firms and industries in the area gave wholehearted support to the program. Better training of students is an immediate result of such a program, but even more important, in the long run, is the improved standing and status which the teaching profession achieves by such programs.

The growing complexity of technology is rapidly increasing the problems confronting science teachers, and changes in the curriculum are rapidly being made to meet new conditions. The core of early engineering training survives in some of our engineering societies, but engineering education has left the apprentice stage, only a vestige of "handbook engineering" remains, and much greater emphasis than in

(Continued on page 62)

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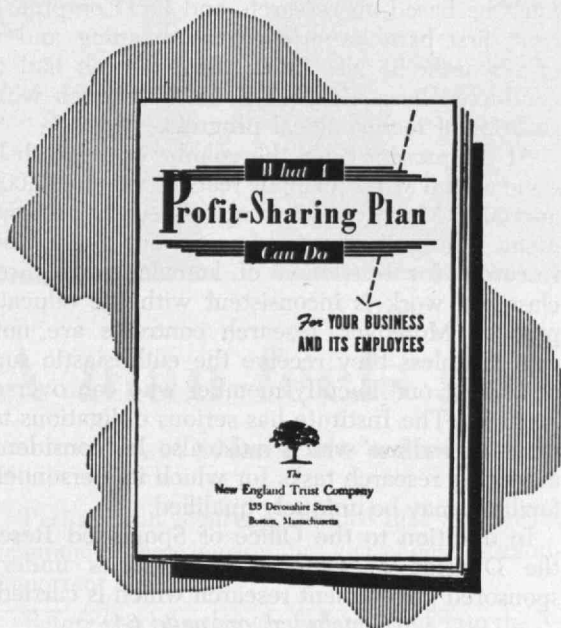
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ALUMNI CONFERENCE

(Continued from page 60)

the past is now being placed on the scientific fundamentals of engineering rather than on techniques of practice. At the Institute the boundaries between departments are disappearing — except for administrative purposes — and students and Faculty alike find a healthy interplay of interests and activities in their work in many departments. Most of the laboratories, such as the Acoustics Laboratory, the Servomechanisms Laboratory, or the Dynamic Analysis and Control Laboratory, to cite three examples, are staffed by specialists of many different types of training and disciplines. This makes it almost certain that students and Faculty alike will obtain an overall picture of current technical progress free from the narrow limitations of instruction in a single course.

Commenting on the tragic loss of Karl T. Compton, on June 22, 1954, Admiral Cochrane recalled that it was during the Compton administration that the hard core of science subjects was so greatly strengthened at the Institute. His work at the Institute made Dr. Compton a leader of international renown, and for this reason he was often called away from the Institute a good part of the time between 1942 and 1954. The undergraduate school is the basis for training and supplying recruits for the graduate school which also increased in size considerably under Dr. Compton's administration. Educational work in the sciences must be based on research, and Dr. Compton knew from first hand experience the meaning and value of research; he also knew that research had to be conducted by a vigorous Faculty in touch with the realities of technological progress.

At the present time, the volume of research being done on the M.I.T. campus reaches about \$12,000,000 annually. Much of this is sponsored by the government. The Institute would prefer not to do classified research, for restriction of knowledge required in classified work is inconsistent with the educational process. Moreover, research contracts are not accepted unless they receive the enthusiastic support of at least one Faculty member who can oversee its progress. The Institute has serious obligations to the national welfare which must also be considered in accepting research tasks for which its personnel and facilities may be uniquely qualified.

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ALUMNI CONFERENCE

(Concluded from page 62)

for the most part, at the Lincoln Laboratories, administered by, but separate from, M.I.T.

The Institute has recently made a significant contribution to one phase of national welfare in making President Killian available to conduct a project on classified research in Washington, at the request of President Eisenhower. In this assignment, which is now concluded, President Killian served as chairman of a panel having the high level responsibility of advising President Eisenhower. Dr. Killian led a group of first-class scientists, and his personal contribution to this work is regarded as of the greatest importance. This work has again established the fact that the Institute is without peer in technical leadership, stated Admiral Cochrane.

In conclusion, Admiral Cochrane said he hoped that the conference might be instrumental in rekindling enthusiasm for M.I.T., and that those who attended might return to their communities with a better understanding and appreciation of what the Institute is doing, what its problems are, and how it is meeting its current demands. He expressed the hope that the conference would also be useful in making recommendations regarding students who would benefit most from being admitted to the Institute as freshmen. Finally, Admiral Cochrane thanked those present for attending the conference, and adjourned the meeting at 2:00 P.M.

Epilogue

Of course it is too early to evaluate the true effectiveness of the conference; only time will demonstrate its full value. But there was universal feeling among those who attended, or had had a part in arranging for it, that the conference had been immensely instructive, that it had provided opportunity for many Alumni to recognize that the "Tech is hell" motto of their student days needs considerable modification to apply to the present M.I.T. Those who came had opportunity to witness the vast expansion and growth of the Institute, in physical plant, in student body, in emphasis on research and graduate work, and in general living conditions of the students. They could not help but be impressed by the fact that the Institute of 1955 is quite a different — and far better — place than it was when they were students.

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LISTING alphabetically within its 642 text-pages: 47,210 living alumni (from Aall, Jacob '50 of Tvedestrand, Norway, to Zych, Edward A. '45 of Chicopee, Mass.); 11,968 deceased alumni (Abare, Lawrence P. '30 to Zitz, Frederick C. '95); 388 members of the Corporation since 1862; 9,119 members of the Faculty and Staff since 1865; and 196 officers and Executive Committee members of the Alumni Association since 1875.

All alumni, living and deceased, are cross-indexed according to Class affiliation; and 44,274 alumni (94 per cent of those living) are cross-indexed geographically according to their addresses as corrected to February 15, 1955.

Over 6,300 copies, ordered by "advance subscribers," have been delivered. . . . Additional copies *paper-bound* for post-publication sales are now available and orders at \$6.00 per copy postpaid will be filled in the order of their receipt by the

Alumni Association
Room 1-280, M.I.T.
Cambridge 39, Mass.

PRESIDENT'S REPORT

(Continued from page 34)

unremitting effort to open up new educational areas within our jurisdiction and thus to educate men and women competent to meet industry's rapidly changing technological needs.

. . . We have sought to provide new competence and to increase knowledge of advancing science and technology through our extensive program of adult education. Last year we held 12 conferences for representatives of the industrial companies in our Industrial Liaison Program, and this past summer our Summer Session, with 32 special conferences, advanced courses, and seminars, drew 1,800 from industry, government, and educational institutions. This kind of special adult education is becoming a major part of the Institute's educational mission.

. . . M.I.T. has sought to help in meeting our national manpower needs by its attempt to strengthen and invigorate science teaching in the secondary schools. Jointly with the Harvard Graduate School of Education we have established a five-year program designed to prepare students of science and engineering for teaching in secondary schools. So far the enrollment in this course is very small, but it shows signs of growing. Last month the Executive Committee authorized special scholarships to encourage students to enter this course. . . .

The serious problem of providing ample financial support for privately endowed educational institutions, so that they may pursue their programs of free inquiry unhampered by governmental directive, are discussed by President Killian. So, too, is the in-

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creasingly disturbing problem of providing the highest possible level of educational opportunity for intellectually able students of restricted financial means. This problem has already been presented to Review readers in its report of President Killian's Alumni Day luncheon address on page 476 of the July, 1955, issue of *The Review*. Methods by which the Institute's facilities for training students in various fields may be brought more nearly into conformity with the student's choice of professional course also forms a part of the President's Report; this topic received attention at the Alumni Officers' Conference reported on page 22 of this issue.

The President's Report recalled that the Institute has ample evidence of the excellence of its student body, but President Killian offered several proposals for the continuation and augmentation of its program. Said Dr. Killian:

Of course we have always given priority to quality, but I suggest that we have a special responsibility now to make sure that we achieve here in Cambridge a high watermark of American intellectual and cultural life. Specifically, I propose that we continue and augment our efforts to:

1: Maintain those conditions of atmosphere, freedom, and creative opportunity which make our institution a place of superior attraction and environment for first-rate minds. M.I.T. should be known to be, and actually must be, one of the most attractive places in the world in terms of its success in creating and maintaining an environment benign to fruitful teaching, learning, and research. Such an environment is characterized by many subtle qualities:

(Concluded on page 68)



ONE of the designs by Samuel Chamberlain '18 for the M.I.T. Wedgwood dinner-service plates. . . . Orders in sets of eight should be placed with the Alumni Office, Room 1-280, M.I.T., Cambridge 39, Mass., for delivery prepaid in the U.S.A. or Canada at the following prices:

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PRESIDENT'S REPORT

(Concluded from page 67)

the standards of excellence which prevail, the interaction and interstimulus of first-rate minds gathered together, the emphases on growth, advance, and creativity in the fields embraced, the status of dignity and freedom the members of the community of scholars have and *feel* they have. These are the qualities which Milton once so eloquently described as a spirited, cheerful, searching, innovating "passion for thought" dedicated "to the search and expectation of greatest and exactest things."

2: Maintain those conditions of compensation, recognition, and reward which will best serve the environmental ideals which I have just described. Today our most pressing need is for an increased staff salary scale.

3: Maintain our standards for selection and promotion high enough to insure an unexcelled Faculty. In promotion we should always give priority to our own people, provided they are as good as anyone who might be found available elsewhere. We should check our own standards of selection against the highest in other institutions, and in filling vacancies we should seek the best men available anywhere in the world.

4: Apply comparably high standards to the selection of students. Present selectivity is good, but we still wind up with a "lower third" of each class which is not up to the standards of excellence we are discussing here. The achievement of the selectivity here proposed should take precedence over the admission of larger classes. The fact that we now admit a higher percentage of our students from foreign countries (11 per cent) than any American college gives us an incomparable opportunity to check our student quality against the cream of the world crop. . . .

Two problems in particular are designated in the President's Report for study by the Institute's governing body. These are (1) the encouragement of more autonomy and individuality on the part of each of the Institute's five schools, and (2) development of better exchange among professors in related fields but residing in different departments or schools.

President Killian's report presented a comprehensive review of major events and activities which took place in the M.I.T. community during the past year. These impressive high-level accomplishments are omitted here since most of these matters have already been presented in the pages of *The Review* for Volume 57.

What may well be regarded as the summary or concluding remarks of President Killian's annual report is in the paragraph reading:

Back of all of this discussion of excellence and of ways to improve our selectivity, our environment, and our program lies the assurance of an institution which has the poise and the self-confidence to look at itself critically and objectively. We can examine our needs and our requirements for augmented strength with a deep sense of self-confidence arising out of the knowledge that the Institute is in a flourishing state, that it has unexcelled standards, that its schools are strong and growing stronger, and that it has a team of Corporation, Faculty, Staff, students, and administration working together with great effectiveness and understanding. Herein lies the opportunity and the responsibility to seek the new standards I advocate. In so seeking lies our best response to the manpower needs of our country today in science and engineering.



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EVALUATION OF STUDENT GOVERNMENT

(Concluded from page 32)

But enough of the past and present. What of the future? We are on the threshold of a new era in American Higher education. President Eisenhower's White House Conference on Education this fall will spell out more clearly the handwriting on the wall. Serious shortages in teaching personnel and facilities will become even more acute as record numbers of students crowd our primary and secondary schools and our institutions of higher learning. College enrollment alone promises to double within a decade or two. Yesterday George R. Harrison, Dean of the School of Science, gave you a picture of growing pains facing the Institute, when he spoke, in the Kresge Auditorium, at this Alumni Officers' Conference on "Problems of Growth at M.I.T."

At present the average American worker cannot afford to send more than one child to college. Segregation deprives many more of an opportunity for higher education. The waste of potential college material is appalling. Adult minds are working to solve these problems. A successful solution will mean a period of academic prosperity the like of which our country has never seen: The failure will mean a period of academic depression and decay.

The challenge is a great one. It doesn't stop at the state schools and universities. It is one that each of us, as a member of an educational community—in our case M.I.T.—must face. Student government must and will assume its position of responsibility alongside the Administration, Faculty, Corporation, and Alumni. I trust that we shall not fail.



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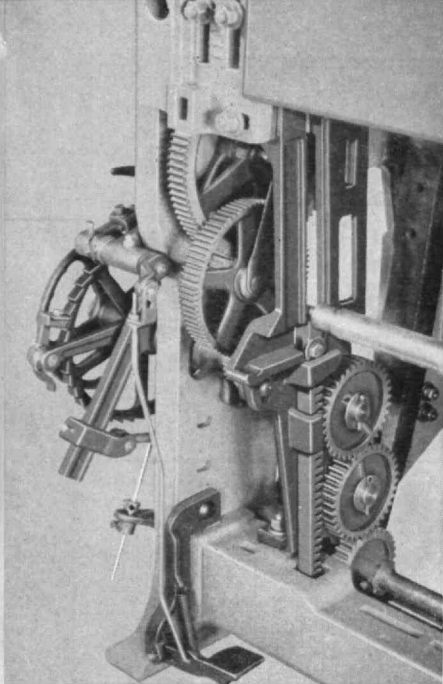
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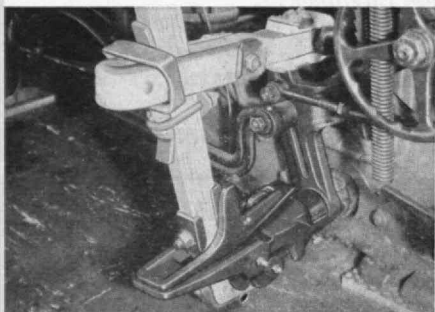
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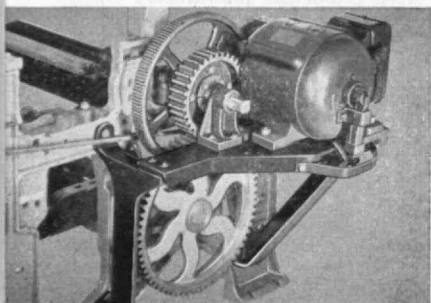
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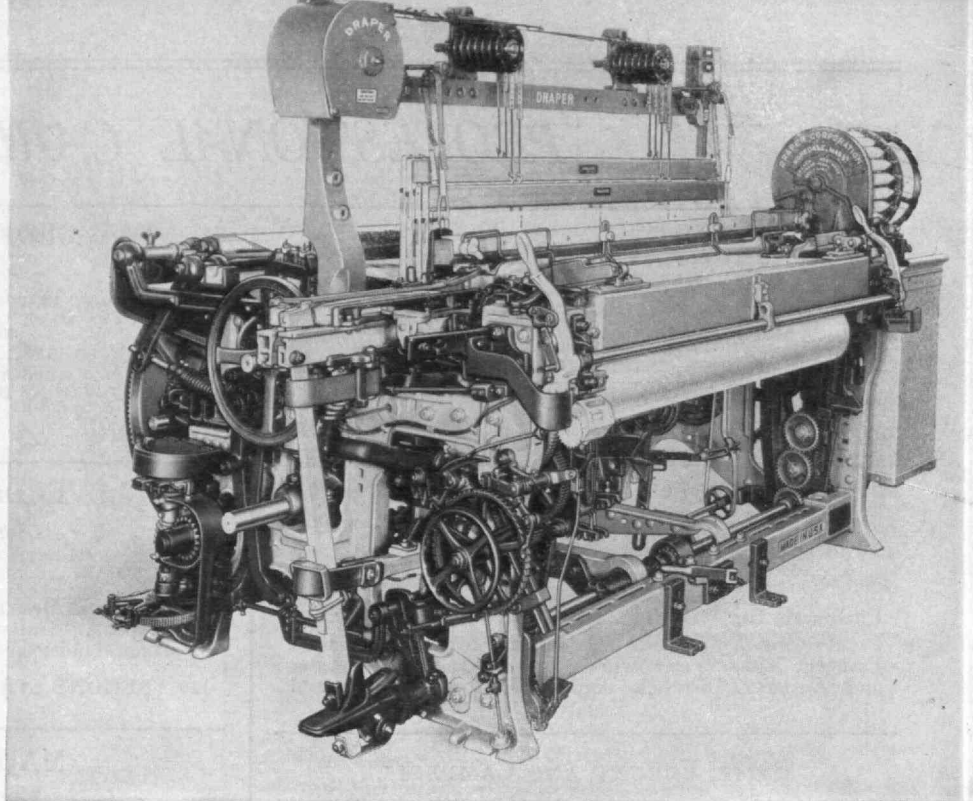
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The second aspect of the Institute's financial problem is the need for sufficient new funds to guarantee the continuing support of its long-range program. This need must be met by grants from industry and foundations, by current gifts, and by bequests from individuals.

In the past, bequests have provided a very large part of the endowment and building funds which have been established and are helping to maintain many of our valuable educational institutions To safeguard the future of M.I.T., the number of "Gifts by Will" from Alumni and friends must be increased.

M.I.T. invites you to consider the opportunities for worth-while achievement in the years to come by including the "Massachusetts Institute of Technology" among those to benefit from the accomplishments of your life.

A booklet "Gifts by Will," outlining different forms of bequests to M.I.T., is available to you or to your attorney by writing to:

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Alumni AND Officers IN THE News

Special Awards

LOUIS SHATTUCK CATES'02, as one of the most distinguished men in the mining industry, has been elected to Honorary Membership in the American Institute of Mining and Metallurgical Engineers. Mr. Cates is Chairman of the board of the Phelps Dodge Corporation, and was president of the A.I.M.E. in 1946.

HAROLD S. OSBORN'08 has been awarded the Howard Coonley Medal at the Sixth National Conference on Standards in Washington, D.C. This award was named for Howard Coonley who was for many years president and chairman of the board of the Walworth Company in New York. This medal is awarded each year to an executive who has rendered great service in advancing the national economy through voluntary standards.

ISIDORE RICHMOND'16 has been chosen for fellowship in the American Institute of Architects for "achievement of design."

HORACE W. MCCURDY'22, president and general manager of the Puget Sound Bridge and Dredging Company has been named Maritime Man of the Year for the Puget Sound Region.

JOHN E. BURCHARD'23, Dean of Humanities and Social Studies, has been re-elected president of the American Academy of Arts and Sciences.

RALPH M. EVANS'28, director of color technology division of Kodak Park, was among 25 individuals and organizations cited by the Photographers' Association of America on August 17 for distinguished service to the field of professional photography.

MARGARET H. HUTCHINSON ROUSSEAU '37, chemical engineer for Stone and Webster has been given the highest award possible by the Society of Women Engineers. She received the society's citation for "Meritorious Contribution to Engineering." She is the only woman to receive a Sc.D. in chemical engineering from M.I.T.

DAVID HUFFMAN'53, assistant professor of Electrical Engineering at M.I.T., was awarded the Louis E. Levy Medal of the Franklin Institute of Technology, Pennsylvania. Dr. Huffman received this medal in recognition of his outstanding paper, "The Synthesis of Sequential Switching Circuits." The Louis E. Levy Medal is awarded to the author of a paper of especial merit, published in the Journal of the Franklin Institute, preference being given to one describing the author's experimental and theoretical researches in a subject of fundamental importance.

JOHN CHIPMAN, Professor of Metallurgy and Head of the Department at M.I.T.,

was awarded the Brinell gold medal for 1954 in a ceremony at the Swedish Academy of Engineering Sciences at Stockholm. The medal was awarded "in recognition of his outstanding achievements in metallurgy and metallography," and is the first time that it has been presented to a non-Swedish scientist. Dr. Chipman also received The Bessemer gold medal which is England's highest award for achievement in metallurgy.

JERROLD R. ZACHARIS, director of the laboratory for nuclear sciences and engineering at M.I.T. has recently been presented the Certificate of Appreciation, the Defense Department's highest civilian honor.

Honorary Degrees

C. LAYLOR BURDICK'13, chairman of the high polymer committee of the DuPont Company, received an honorary degree of doctor of science from the University of Delaware.

E. RALPH ROWZEE'30, vice president and manager of Polymer Corporation in Canada has been awarded an honorary doctor of science degree from Laval University.

JOHN R. NEWELL'34, president of the Bath Iron Works was awarded an honorary degree of doctor of laws from the University of Maine at Orono.

GEORGE R. HARRISON, Dean of Science at M.I.T., received an honorary doctor of laws from Middlebury College in June.

Appointments

WALTER G. WHITMAN'17, chairman of the Department of Chemical Engineering at M.I.T. was Secretary-General for the recent Geneva Conference.

PHILIP M. DINKINS'18, has been elected vice-president-operations of the Dyestuff and Chemical Division of General Aniline and Film Corporation.

R. ROBINSON ROWE'18 has been elected a member of the board of directors of the American Society of Engineers.

STEWART P. COLEMAN'21 has been named vice-president of Standard Oil Company of New Jersey.

ANDREW DEANE'21 has been elected vice-president-materials of U.S. Steel Homes, Inc., the housing subsidiary of U.S. Steel.

C. GEORGE DANDROW'22 has been appointed to the newly created post of vice president for customer relations for the Johns-Manville Corporation.

ROY G. RINCLIFFE'23 has been elected a trustee of Drexel Institute of Technology.

J. A. STRATTON'23 has been elected chairman of the Naval Research Advisory Committee of the Office of Naval Research.

FREDERICK E. TERMAN'24, Dean of the Stanford School of Engineering and an international authority in electronics, has been appointed provost of Stanford University.

THOMAS J. KILLIAN'25, Dean of the School of Engineering and Architecture at Catholic University, has been named deputy chief and chief scientist of the Office of Naval Research.

JAMES O. CRAWFORD'26 recently became assistant vice-president in the public relations department of the Bell Telephone Company of Pennsylvania.

W. FITCH CHENEY, Jr.'27, has been appointed professor and chairman of the Department of Mathematics at Hillyer College.

M. C. BUDLONG'28 has been elected a director of the General Time Corporation.

PAUL V. KEYSER'29 has been made vice-president and a member of the board of Socony Mobil Oil Company, Inc.

JAMES B. FISK'31 has been elected executive vice president of the Bell Telephone Laboratories, Inc.

FREDERICK W. NORDSIEK'31 has been made executive officer of the research department for the American Cancer Society.

JAMES W. PERRY'31 has been named as Director of the Center for Documentation and Communication Research at Western Reserve University.

FRANK R. COOK'32 is heading a new research and manufacturing organization in Colorado which will engage in the development of equipment for aeronautical and electronic industries.

MANSON BENEDICT'32, BERNARD PROCTOR'23 and VICTOR F. WEISSKOPF, professor of Physics at M.I.T. were part of the group of technical advisors to the Geneva Conference in August.

GERALD C. RICH'35 has been appointed manager of the Microwave Tube Laboratory of Sylvania Electric Products, Inc. The laboratory which Mr. Rich now heads was Sylvania's first research and production facility in California, completed in 1952 for the production of silicon diodes, germanium diodes, and other components

as well as for development work in transistors.

RODNEY D. CHIPP'33 has been appointed director of engineering for all manufacturing divisions of Allen B. DuMont Laboratories. Mr. Chipp, who has directed engineering for DuMont since 1948, will act as liaison between divisional engineering departments and DuMont's Research Laboratories.

EDWIN R. GILLILAND'33, professor of Chemical Engineering at M.I.T.; ARTHUR C. COPE, Head of the Department of Chemistry; and WILLIAM A. E. KREBS, Jr., associate professor of law at the School of Industrial Management at M.I.T. have been appointed members of a special committee which will propose recommendations concerning the role of the Federal Government in basic research on synthetic rubber.

FRANKLIN S. COOPER'36 has been elected president and director of research of Haskins Laboratories of New York.

COLONEL WILLIAM L. McCULLA'36 has become vice commander of the Arnold Engineering Development Center, Tullahoma, Tennessee.

The Engineering Society of New England has elected two Institute men. They are: JOHN C. HITT'37, second vice president; and FRANCIS M. STASZESKY'42, secretary.

HARRY WHITTAKER'37 has been appointed assistant director of the research department of the Plumbing and Heating Division of American Radiator and Standard Sanitary Corporation.

Humble Oil and Refining Company has promoted RAYMOND A. DEESELY'38 to technical specialist.

DONALD G. ROBBINS, Jr.'38 has been appointed to direct Singer's sales organization in Europe, the Middle East and Northern Central Africa.

VINCENT SALMON'38 has been appointed editor of the Journal of the Audio Engineering Society; and COLONEL RICHARD H. RANGER'41 has been made president of this society.

JULIUS A. LUCAS'39 has been presented the Litchfield Award of Merit by the Goodyear Tire and Rubber Company for outstanding work.

DAVID DETTINGER'42 has been elected vice-president of Standard Oil Company of New Jersey.

HARRY C. PLATT'42 has been appointed president of the Engineered Castings division of American Brake Shoe Company.

The Atomic Energy Commission has announced the appointment of LOUIS H. RODDIS, Jr.'44 as deputy director of the Division of Reactor Development.

YIH CHANG YANG'45 has been promoted to assistant professor of mechanical en-

gineering at Clarkson College of Technology.

JU CHIN CHU'46, internationally known chemical engineer has been appointed to the rank of professor in the Department of Chemical Engineering at the Polytechnic Institute of Brooklyn. Dr. Chu has been active in the field of industrial consulting as well as in academics, having been associated with such firms as Sun Oil, American Cyanid, etc. As an author, he has been responsible for several books, and is also a reviewer for the *Chemical Engineering Progress*.

JOHN M. DUDLEY'46 has received an appointment to the faculty of Pomona College as an instructor in physics.

JEROME R. COX'47, JOSEPH R. PASSONNEAU'49, and JOHN H. KATUSKY, a former research associate at the Institute, have been appointed to the staff of Washington University.

WALTON FORSTALL, Jr.'49 has been made an assistant dean in the college of Engineering and Science at Carnegie Institute.

VICTOR P. HENRI'50 and RONALD E. SCOTT'50 have been appointed to the Day Colleges faculty at Northeastern University.

LOUIS WEINBERG'51 has accepted an invitation to deliver a series of six or more post-graduate lectures at the University of Manchester in England. Mr. Weinberg is employed at the Hughes Aircraft Company, California.

VICTOR F. WEISSKOPF, professor of physics at the Institute, is on an advisory board on Russian translation. He was appointed by the American Institute of Physics.

Speeches

CECIL G. DUNN'30, associate professor of the department of Food Technology, M.I.T., was recently the featured speaker of a symposium on microbiology at the annual meeting of the American Society of Brewing Chemists in Philadelphia.

Articles

GEORGE R. HARRISON, Dean of the School of Science at M.I.T., has authored an article in the September Atlantic Monthly entitled "The Control of Energy."

Obituary

WILLIAM A. MORSE'88, March 2.
RODERICK D. HALL'89, February 18.
FRANKLIN W. HOBBS'89, June 16.
HARRY D. WINTRINGER'93, April 20.
AUSTIN SPERRY'94, July 18.*
PARKER H. KEMBLE'95, May 24.
WINTHROP DANA PARKER'95, July 6.*
AUGUSTUS J. BOWIE'96, June 22.*
MINOR STORY JAMESON'96, May 20.*
JOHN R. MACOMBER'97, May 11.*
JAMES W. SHOOK'98, July 28.
EDWIN BERGSTROM'99, May 11.*
EDMUND T. STEWART'99, May 11.*

PAUL H. DELANO'00, June 3.*
PHILIP E. RIPLEY'00, April 25.
MORTIMER SILVERMAN'00, July 18.
CHARLES DENNISON'01, March 15.
OLIVER H. PERRY, Jr.'01, March 13.
CHARLES A. RECORD'01, May 26.*
CHARLES L. SHEDD'02, June 19.*
FINDLEY BURNS'03, May 19.
HORACE G. SIMPSON'03, May 19.
GEORGE D. WILSON'03, April 27.
GEORGE AINSWORTH'04, June 9.
PROF. GRACE E. DAVIS'04, May 15.
CHARLES L. HOMER'04, July 10.
DR. ROYAL D. MAILEY'04, June 3.
LESTER A. RUSSELL'04, May 29.
L. A. WALLON'04, July 9.
C. WALDO ADAMS'05, May 1955.
MISS CECILIA A. LEMNER'05, March 29.
RAY H. WHITE'05, June 15.
EDGAR M. BERLINER'06, July 2.*
EDWARD F. KELLY'07, July 26, 1954.*
HERMAN W. MAHR'07, July 10.*
SHELDON P. THACHER'07, March 2.*
EVERETT J. BEEDE'08, June 23.*
WARREN W. KARNAN'08, February 22.
WILLIAM J. MCAULIFFE'08, April 15.*
LEWIS C. BENNETT'09, March 28.*
LEWIS H. JOHNSON'09, May 12.*
PHILIP E. YOUNG'09, June 17.*
LOUIS ROWE'10, August 29.*
GEORGE B. CUMMINGS'11, June 25.*
KENNETH W. FAUNCE'11, August 2.*
RUFUS E. ZIMMERMAN'11, June 21.*
DR. JOHN A. ALLAN'12, May 23.
ERNEST W. DAVIS'13, January 11.*
LESTER F. HOYT'13, January 5.*
BOLIVAN RINGO'13, June 3.
DR. MAX BRAFF'14, June 7.
ROY E. HARDY'14, May 10.
ARMIN L. PITZ'14, November 21, 1954.*
LLOYD H. CHELLMAN'15, June 24.
C. MASON FARNUM'17, May 9.
HAROLD H. LOCKEY'21, May 24.
EDWIN J. ALLEN'22, May.*
REGINALD W. EDMONDS'22, August 23.
MANUEL GONZALES'22, January 28, 1951.*
RALPH S. HAYES'22, June 9.*
CHARLES H. JOHNSON, Jr.'22.*
RICHARD M. KASCH'22, 1952.*
S. PARKER McCONNELL'22, June 5.*
OLE I. VOLD'22, December 6, 1954.
GEORGE P. DAVIS'24, August 25.
JOHN C. POPE'24, August 11.
WILLIAM W. QUARLES'24, August 18.*
PRESTON M. PUTNAM'25, December 24, 1954.
GEORGE F. RUBLEE'25, 1950.
WEBSTER L. STEWART'25, July 23.
NORMAN C. HILL'26, August 12.
JAMES E. PEW'26, June 9.
RALPH E. SMITH'26, May 8.*
EMIL NYITRAY'33, May 18.
JAMES E. MULLIGAN'33, July 22.
SYDNEY NASHNER'34, August 15.
KENNETH B. A. ROBERTS'34, June 1952.
DR. REINA HUNTER'27, July 3.
JEROME B. GREEN'39, January 23.
CLYDE F. HAYWARD'42, September 10.
DEXTER R. WELLS'42, April.
WILLIAM DANFORTH COMPTON'47, April 1.*
LT. KURT D. RICHARDS'47, August 4.
EDMOND DOZOIS, Jr.'51, June 8.
RALPH A. COOPER'52, April 20.*
DIMITRI TATISTCHEFF'52, Sept. 17.
WILFRED P. CHAMPLAIN, Jr.'53, August 25.
JOHN G. HEATH'54, July 25.
*Further information in Class Notes

News FROM THE Clubs AND Classes

CLUB NOTES

Southern California

The M.I.T. Club of Southern California held an evening dinner meeting on Thursday, May 26, 1955, at the Los Angeles County Museum. It was a colorful party — in fact the theme of the evening was "Color." President Sam Lunden'21 introduced Program Chairman Anthony Thormin'27 who wore a very colorful plaid vest. After dinner Tony introduced Roger Hayward'22 who spoke on the psychophysics of color, James Martin who spoke on color engineering, Roy E. Bevin who spoke on "Color is how you light it," Miss Frances Roberts Nugent, Art Instructor of the Los Angeles County Museum, who spoke on "Color in Art and Fashions," and Walter Hagedohm who spoke on "Color in Architecture."

The speakers were most interesting and held their audience of more than 150 people, as was proved by the fact that none of the 150 left during the two-hour color symposium.

Among those attending was Alumnus Paul Masser, from the Detroit Club, and the following: George Clapp'03, James I. Banash'06, Mr. and Mrs. Hiram Beebe'10, Henry A. Babcock'12, H. H. Calvin'12 and Mrs. Calvin, W. C. Lynch'12, and Mrs. Lynch, Fred Kennedy, Jr.'13, and Mrs. Kennedy, Robert Welles'15, L. H. Littlefield'17 and Mrs. Littlefield, L. A. Brown'19 and Mrs. Brown, B. S. Coleman'19 and Mrs. Coleman, D. O. Woodbury'21, and Mrs. Woodbury, E. H. McBroom'21 and Mrs. McBroom, S. E. Lunden'21 and Mrs. Lunden, Roger Hayward'22 and Mrs. Hayward, Russell Collins'22 and Mrs. Collins, Rockwell Hereford'24 and Mrs. Hereford, William MacCallum'24 and Mrs. MacCallum, and Miss Alexandra MacCallum, Homer S. Davis'24, J. F. Rozenberg'25 and Mrs. Rozenberg, J. W. Green'25 and Mrs. Green, Roscoe Wood'26 and Mrs. Wood, P. W. Robinson'26 and Mrs. Robinson, Grant Speer'26, Anthony Thormin'27, George Cunningham'27, Robert Hunn'28 and Mrs. Hunn, Harry E. Shoemaker'29, A. G. Reidell'32 and Mrs. Reidell, John Delmonte'24 and Mrs. Delmonte, Page Golsan, Jr.'34 and Mrs. Golsan, R. S. DeWolfe'36, Howard Britton'38 and Mrs. Britton, Harold Seykota'39 and Mrs. Seykota, Tom Blakistone'38, George Bailey'40 and Mrs. Bailey, Charles Papas'41 and Mrs. Papas, John W. Horner'41, E. J. Regalado'41 and Mrs. Regalado, J. V. Whipp'41 and Mrs. Whipp, Charles H. Lawrence'42, Gideon Hofmann'42 and Mrs. Hofmann, Robert A. Frey'43, Lawrence Stewart'43 and Mrs. Stewart, Richard L. Robinson'44 and Mrs. Robinson, M. R. Ward'46 and Mrs. Ward, Francis

Kurris'46, William A. Barton'48, Milton Beilock'49 and Mrs. Beilock, Fred English'50 and Mrs. English, Ewald Schuettner'50, Anthony J. Dowkont'50, David Long'51 and Mrs. Long, Fred Hadden'51 and Mrs. Hadden, Howard Hiplin'51 and Mrs. Hiplin, William Carmack'51, P. Neuschatz'52 and Mrs. Neuschatz, Ed Markowski'52, Robert S. Russell'52, Donald K. Crockett'52, Fred R. West, Jr.'53, Harry Pearlman'53, Gordon B. Fox'54, Harold A. Schapiro'54 and Mrs. Schapiro, Irvin H. Salt, Jr.'54, and Aristid Berk'54.

The next meeting was held June 23 at the Mona Lisa restaurant in Los Angeles. After luncheon a moving picture created by the Bethlehem Steel Corporation and entitled "Men, Steel and Earthquakes" was shown. Among those attending were: Hiram Beebe'10, and guest John Williams, Bernard S. Coleman'19, Jackson W. Kendall'21, Roger Hayward'22, Charles H. Toll'23, Frank E. Reeves'24, Philip Herrick'24, Rockwell Hereford'24, Anthony Thormin'27, R. S. DeWolfe'36, Vern Dress'37, John M. Andreas'37, E. I. Noxon'47, J. A. Hugus'47, Russell Miller'48, William K. Geist'50, W. V. Ward'51, I. M. Drucker'51, Robert Sletten'53, and guest P. B. Scharf. Guests included Mrs. L. A. Brown, Jr., Mildred Weber, N. J. Wells, S. E. House, E. E. Griffith, L. S. Thrasher, D. H. Garbaccio, L. Skjelbreia. — HAROLD R. SEYKOTA'39, *Secretary*, c/o R. T. Collier Corporation, 714 West Olympic Boulevard, Los Angeles 15, California.

Cincinnati, Ohio

On September 8, the Club presented its second annual Freshman Smoker as the first event of a 1955-56 program that promises to make the 55th season the brightest of recent years. Thomas P. Meloy '51 was Smoker Chairman and handled all arrangements for the evening. He was ably assisted by our treasurer, Samson I. Crew'34, who invited us to make use of the Queen City Club for the occasion. The program included slides of the Institute and a movie of the 1954 Henley races in England, both of which were narrated by Chan Stevens'55 who was president of last year's senior class. A question and answer period which followed gave way to an informal refreshment-bull session during which several alumni reminisced concerning their student days. The general informality of the evening was very much enjoyed by all in attendance. Guests of the Club were: Allan H. Clark'57, David Bentley, Jr.'58, E. James Braman'58, William H. Levison'58, Frank G. Schmaltz, Jr.'58, Eugene L. Zuch'58, and Neal Des Ruisseaux'59. Alumni members who were present included: E. H. Kruckemeyer'11, Frank O. Rickers'22, Alexander C. Brown '25 George F. Schatz'30, Robert E. Schildknecht'30, John J. Brown'32, Samson I. Crew'34, Dr. William C. Cooley'44, John J. Ebersberger'47, Robert C. St. John

'47, C. D. Axelrod'48, Arthur W. Brusila '48, John Comer'49, Kenneth H. Pettengill '49, Jack H. Barcinski'51, Gerald S. Burns '51, Thomas P. Meloy'51, John H. Morgenthaler'51, Howard Schwartzman'51, Robert N. Summerville'52, Sheldon G. Thorpe'52 (Miss) Dell Lanier'55, John P. Seagle'55, and Chan Stevens'55.

The program of the Club for the 1955-56 season includes two ladies' nights, a stag dinner meeting and a stag outing. All alumni in the Cincinnati area who are not on the mailing list are requested to contact the secretary for details on the coming activities. — GERALD S. BURNS'51, *Secretary*, 2123 Luray Avenue, Cincinnati 6, Ohio.

South Florida

A dinner meeting at Miami Springs Villas on June 1 was followed by attendance at a stage play in the Villas Playhouse in which Jake Lamotta, former World's Middleweight Champion, was the star. Following the policy adopted at the annual meeting in January, this, again, was a purely social affair. The business of the Club is now handled at luncheon meetings held at Betty's Restaurant, 1440 Biscayne Boulevard, on the first Tuesday of each month, at which the officers and any other members who desire to attend are present. The following members and guests attended the meeting at the Villas: William Sussman'40, President, and Mrs. Sussman; Donald L. Whitmore'51, Vice-president; Scott J. Hoehn'47, Treasurer, and his parents, Mr. and Mrs. A. J. Hoehn; Kenneth P. Armstrong'10, Secretary; Edward I. Mandell'21 and Mrs. Mandell; Richard L. O'Donovan'27 and Mrs. O'Donovan; Colonel Leo J. Dillon'27 and Mrs. Dillon; Charles S. Symonds'35 and Mrs. Symonds; and Donald L. Brown'51, who was accompanied by Joan Barnes. Colonel and Mrs. Dillon were welcomed as newcomers to Florida, but stated that they had not yet fully made up their minds to locate in this area permanently. The Secretary has been very busy compiling a list of all Tech Alumni in Dade, Broward and Palm Beach Counties and would appreciate hearing from anyone not on his mailing list.

Last summer the Secretary purchased a new small home where he expects to "live alone and like it." It had to be in Opa-locka because he is heavily involved in civic affairs in that suburban city (being Director of Planning, for one thing). — KENNETH P. ARMSTRONG'10, *Secretary*, 145 Sesame Street, Opa-locka, Fla.

Northern New Jersey

The first meeting of the year of the officers, Board of Governors, and Committee Chairmen of the M.I.T. Club of Northern New Jersey, took place September 13th at Hotel Suburban in East Orange.

Newton Foster'28, reported that the Club's 20th Anniversary Scholarship was awarded to Robert C. Ten Eick of Montclair, who received a total of \$950 toward his first year's costs (\$500 from our Club). The Club plans to continue with a Scholarship this year also.

During the summer, under the aegis of Sumner Hayward'21, the Club entertained a group of 23 entering freshmen at Hotel Suburban. Several upper-class students spoke on general and living conditions at the Institute, and a vigorous and profitable discussion ensued concerning what the newcomers (including one prospective co-ed) might expect at the Institute.

Jack Andrews'33, reported on the First Alumni Officers' Conference held at the Institute on September 9 and 10. Nineteen representatives of our Club attended, probably the largest delegation, distance considered. This symposium covered new trends in engineering education, the problems currently facing the Institute and what the Institute is doing about it, as well as an interchange of ideas on the operation of Alumni Regional Clubs and Classes. It was pronounced excellent by all concerned. A "Bronze Beaver" award was made to our former president and charter member, Carole A. "CAC" Clarke'21, in recognition of his devotion above and beyond the call of duty to contributions to his class notes in the *Technology Review* for more than thirty years.

The Finance Committee (Joseph Wenick'21, Chairman) reported that the Club operated at a deficit last year, and presented a positive detailed program for correcting this. Included were proposals for cutting down the usually irreducible mailing and meeting costs, and a small increase in dues when approved by the Club, as well as a definite program for boosting membership.

Russell Lowe'16 and Grover Paulson'40 of the Constitution Committee, presented the results of the first detailed study of the Club Constitution in many years. This excellent modernization will be presented to the membership for approval, as provided in the present Constitution.

The following are our officers and committee principals for this year: OFFICERS: President, Russell P. Westerhoff'27; Vice-President, Donald H. Spitzli'27; Secretary, Stuart G. Stearns'39; Assistant Secretary, Jerome E. Salny'37; Treasurer, Joseph Wenick'21; Assistant Treasurer, W. Bennett Sharp, Jr.'36; — BOARD OF GOVERNORS: Russell P. Westerhoff'27 (President) (1956); Jack F. Andrews'33 (1956); Donald H. Spitzli'27 (Vice-President) (1956); Stuart G. Stearns'39 (Secretary) (1956); Clarence Van C. Chamberlain'23 (1956); Grover C. Paulson, Jr.'40 (1957); Sumner Hayward'21 (1957); Chester A. Williams, Jr.'38 (1957); Newton S. Foster'28 (1958); Rudolph J. Ozol'36 (1958); Emerson D. Callahan'49 (1958). COMMITTEES: Representative to Alumni Council George A. Chutter'21; Program John T. Reid'48; House Committee James H. Shayne'43, Rudolph J. Ozol'36, Hugh E. Ramsden'43; Reception Donald H. Spitzli'27; Placement H. D. MacDonald'22; Finance Joseph Wenick'21, Emerson D. Callahan'49, W. Bennett Sharp, Jr.'36, Donald H. Spitzli'27, Stuart

G. Stearns'39; Scholarship George F. Des Marais'20, Geoffrey M. Rollason'12, Newton S. Foster'28, Lyman L. Tremaine'23, Donald D. Way'19, Chester A. Williams, Jr.'38; Liaison Representative to M.I.T. Club of N.Y. Clayton D. Grover'22, Lyman L. Tremaine'23; Attendance Martin King'44, Emerson D. Callahan'49; Educational Council Sumner Hayward'21; Publicity Kenneth J. Rademer'42, John T. Reid'48. — STUART G. STEARNS'39, *Secretary*, 25 Elmwood Place, Short Hills, N.J.; JEROME E. SALNY'37, *Assistant Secretary*, Egbert Hill, Morristown, N.J.

New Mexico

A formal meeting of our Club was held at the home of Mr. and Mrs. G. William Rollosos, 1908 Inez Drive NE, Albuquerque on July 5th. A convivial social prelude allowed H. E. Lobdell'17, Vice President of the Alumni Association, to introduce his charming wife, Conchita, to the local alumni and their escorts. After a meal held outdoors under our beautiful southwestern skies (weatherman, please note!) W. R. Perret'30, our outgoing President, opened discussion on new officers and, after suitable reporting was heard from the Nominating Committee, the following were unanimously elected: President — G. William Rollosos'47; Vice-President — Max L. Ilfeld'24; Executive Committee — William R. Perret'30. Your Scribe, being elected on a three-year-term basis, has two more years to go in this capacity.

Lobbie then entertained the group with color slides of the M.I.T. Fiesta which was held in Mexico City in March of this year. We in this area are not unaware of the amenities of life below the border, but to most of us this Fiesta was a new thing. It bears watching, and I am sure that many Club representatives will be present for the 1956 festivities to bear appropriate greeting from New Mexico to our neighbor to the South. Fred Given'19, of our local group, had been present at the Fiesta and also showed slides of the meeting and of Mexico City. A very colorful and interesting evening was had by all. Many thanks to Lobbie and Fred.

Alumni and escorts present for the above meeting were: F. C. Alexander'32, Mr. and Mrs. Benjamin L. Basore'52, Mr. and Mrs. George H. Bradley'49, Mr. and Mrs. Edward Edmunds'42, Frederick J. Given'19, Mr. and Mrs. Arthur M. Hill'27, Harvey S. Hoshour'55, Mr. and Mrs. Max L. Ilfeld'24, Mr. and Mrs. H. E. Lobdell'17, Mr. and Mrs. Frederick L. Mulberry'39, Mr. and Mrs. William R. Perret'30, Mr. and Mrs. Harold K. Pride'30, Mr. and Mrs. Robert E. Quinlan'30, Mr. and Mrs. G. William Rollosos'47, Col. and Mrs. Clarence E. Rothgeb'30, Mr. and Mrs. Friend L. Skinner'50, Mr. and Mrs. William M. Wells'48, and Capt. and Mrs. John F. P. Zengel'47. — FREDERIC C. ALEXANDER, JR., *Secretary-Treasurer*.

New York

The program for 1955-56 of the M.I.T. Club of New York was initiated with proper fanfare in the September issue of the Newsletter. It will be the most event-

ful year of Alumni activities in the New York area for a number of years. Amongst the four associated Alumni clubs in the area, the M.I.T. Club of New York, M.I.T. Alumni of Westchester, M.I.T. Club of Northern New Jersey and M.I.T. Alumni of Long Island, there are seventeen programs in various stages of planning. The first, which will be history by the time these notes are read, will be the traditional Beer Party, free for all members, at Rupert's Brewery on September 28th. The speaker on this occasion will be W. J. Connelly, Assistant Director of Public Relations for the Bakelite Company of Union Carbide and Carbon. He will speak on "The Proper Perspective on Plastics." As an ex-magician his talk should provide the proper stimulus. In quick succession there will be an M.I.T. Faculty Program in Westchester sometime in October, with Dean E. P. Brooks and H. E. (Lobby) Lobdell, a visit through the Long Island Lighting Company by the Long Island group, and a program in New Jersey. Please retain your copy of the Newsletter which has these programs listed and make an effort to attend those in your area. There will be further announcements, but form your intentions to come early and let nothing interfere.

To supplement all this activity, a membership campaign has been set up to acquire as many new members in these organizations as possible. The basic philosophy behind this drive is to obtain members at the lowest possible dues level. In order to accomplish this, the club is seeking to increase the number of inducements. A serious shortcoming during the last few years has been the lack of suitable club quarters.

At this juncture a contract is about to be signed with the Hotel Chatham in New York for club quarters. It would be very difficult to tell you in this space of the search made to locate these facilities. Briefly, however, it can be said that there will be the proper atmosphere and service, and it will be convenient. The dues structure, of course, at this time is not sufficient to carry this expense with the number of members we have. However, these quarters are being made possible for a while by many small contributions from members who are anxious to see the club take this step. For the next few years the biggest problem of the administration will be to make these facilities self supporting. It will be impossible to carry on this way without the backing of all New York Alumni. The Board of Directors are convinced their attempt to fill the demand will be met with this support.

Meanwhile, Joe Conrad, our Executive Secretary, continues his efforts to make the M.I.T. Club of New York a proper reflection of the prestige of the Institute. He is doing this by providing services. He will run seminars, class dinners and industry dinners. He will publish the Newsletter and the Club Directory. He will make arrangements for the Silver-Stein Dinner and the Regional Meeting of the Alumni Association. He will provide Placement Counseling. In addition Joe will be General Bonhomme at the Club Quarters to all you Brownbaggers. On your next visit to New York why not drop in and see him. Everyone is welcome.

In closing we have to sound one sad note concerning the passing of a former Secretary and great friend, Wink Quarles. — M. R. McGUIRE, *Secretary*, The Cooper-Bessemer Corporation, 25 West 43rd Street, New York 36, New York, J. E. PLANTINGA, *Assistant Secretary*, Meyer Strong and Jones, 101 Park Avenue, New York 17, New York.

Sao Paulo

The M.I.T. Club of Sao Paulo held its General Meeting on Saturday, April 16, 1955, at the Club de Campo in Santo Amaro, Sao Paulo. The gathering was planned to be of the outdoor picnic type with wives, children, and girlfriends attending. Weather conditions, however, converted it into an indoor tea and dinner affair. After an excellent dinner, President V. F. B. de Mello'46, called the meeting to order. The principal item on the agenda was the election for the office of vice-president as called for by the constitution. Allen G. Velho'39, was unanimously re-elected.

In addition, elections were also held to fill the post of secretary-treasurer, left vacant by the resignation of Rogerio N. da Silva Rego'47. Marc L. Aelion'51 was elected for the balance of the term. Special credit and the Club's gratitude, go to Rogerio Rego for admirably managing the affairs of the club during its first year of existence. Members present were: Allen G. Velho'39, Hanns J. Maier'44, Victor F. B. de Mello'46, Paulo F. B. de Mello'47, Flavio B. Reis'47, Rogero de Silva Rego'47 and Marc L. Aelion'51. Also present at the meeting was Burton A. Bromfield'46, who is on a short visit to Brazil.

The next meeting was held on Saturday June 11 at the Instituto Tecnico de Aeronautica in Sao Jose dos Campos. Everyone met at the home of Dr. Flavio Reis'47 at 12 noon. Dr. Reis' home is located in the residential quarters of the staff on the Institute grounds. Then we lunched at a restaurant in the city and visited the Institute.

Two months later the Club held another highly successful meeting.

About twelve noon on June 11, 1955, Techmen from various parts of Sao Paulo and Rio de Janeiro converged towards the Instituto Tecnico de Aeronautica (I.T.A.) in Sao Jose dos Campos. The occasion was the ninth meeting of the M.I.T. Club of Sao Paulo.

The activities were started off with a luncheon. The Director of the Instituto, Professor Andre Mayer, and Mrs. Mayer were the guests of the Club. After luncheon, Professor Mayer guided the members on a tour of the Instituto, while the distaff side went off to a local bazaar. Among the facilities visited were the Structures and Materials Testing Laboratories, the Engines Laboratory, the all-concrete Wind Tunnel and finally, the home of Flavio Reis'47 on the Instituto grounds, for the traditional afternoon coffee. Thank you, I.T.A. for a most pleasant and interesting outing.

Present at the meeting were: Adolpho Santos, Jr.'24, Werner O. Bachli'33, Prof. William A. Sangster'37, of I.T.A., Oswaldo Torres'45, Joaquim Batistela'46, Antonio Nunes'46, Jose F. de Souza'46, Victor F.

B. de Bello'46, Prof. Flavio Reis'47, Jordan Loftus'50, Marc Aelion'51, Heinz Gunther'52. Also present were Prof. Peters and Prof. Feng of the Faculty of the Instituto. It might interest you to know that there are 102 M.I.T. Alumni in Brazil; we hope we can all get to know each other soon. — MARC L. AELION'51, *Secretary*, Avenida Nove de Julho, 1289, Apt. 41, Sao Paulo, Brazil.

Schenectady

The new club season was initiated again this year with our Annual Fall Picnic at Thatcher Park on September the 18th. The program was headed by Ned Cabaniss'38, who was aided and abetted by B. S. Angell'43, E. R. Barriers'49, J. R. Eshbach'51, W. S. Kather'40, E. S. Lawrence'47, D. L. Lippitt'47, R. L. Matthews'50, W. R. Oney'48, D. J. Smith'50, and G. F. Wright'50. The afternoon provided everything from games to steak and should herald another interesting round of monthly luncheons. These luncheons not only provide a chance to renew old acquaintances, but more important to obtain new ones. Each session features a speaker on topics of current interest.

Recent balloting for club officers resulted in the election of: — (Pres.) Hansjoerg Stern'50, 1804 Hillside Ave., Schenectady; (Sec'y) Walter G. Giles'50, Netherlands Vil., Schenectady; (Treas.) David D. Adams'50, Charlton Rd., RD#1, Ballston Lake. — W. B. GILES, *Secretary*, Netherlands Vil., Wemple #9, Schenectady, N.Y.

Toledo

Starting last fall the M.I.T. Club of Toledo has held regular monthly meetings under the direction of John D. Northrup, XV'32 President, and A. G. Spieker, Jr., XVII'50 Secretary. These meetings have received the enthusiastic support of the local M.I.T. men.

The group decided to hold a luncheon meeting on the first Monday of each month at the Hillcrest Hotel at noon. These luncheons are primarily intended to foster new friendships among the local Alumni and continue old ones. They are also meant to afford an opportunity for the Alumni to discuss Institute affairs, welcome new Tech men to Toledo and meet any itinerant Alumni or member of the Institute Staff who may be in Toledo at the time. The luncheons are social gatherings without any planned program.

On special occasions, evening meetings will be held in lieu of the regular luncheons. One such meeting was held this year. This consisted of a dinner meeting and tour of hangars and facilities at the new Toledo Express Airport. Arrangements were made for Alumni and their ladies for this enjoyable evening through the efforts of John Evans'40, IV, a member of the firm which designed the airport.

Members of the Toledo Alumni Club took an active part in the Annual Toledo Council Engineers Week activities in February. Dr. Killian was invited to address the six hundred Council members at the annual banquet. His very excellent speech was read to the audience by Edward C. Ames, Director of Public Rela-

tions for the Owens Illinois Glass Co. because Dr. Killian had to return to Boston prior to the banquet owing to sudden illness in his family.

Nevertheless, his willingness to address the engineers in Toledo, and his memorable address will long be remembered here. We hope to report our continued activities from time to time and we invite Alumni and members of the Institute staff to contact us if they plan to be in the Toledo area so that if possible they may take part in our functions. — ADAM G. SPIEKER, JR., *Secretary* H. J. Spieker Co., 1418 Elm St., Toledo, Ohio.

CLASS NOTES

• 1885 •

Charles M. Wilder was born in Cincinnati, Ohio, January 7, 1864 and died in Daytona Beach, Florida, May 16, 1955. He entered the Institute in September 1881 and was graduated in June 1885, as one of the first M.I.T. electrical engineers. He was a very popular classmate. (I have tried without success to learn something of his business career).

He moved to Daytona Beach Florida in 1897 and was keenly aware of the events in that area, and deeply interested in the city's progress. He helped develop the Ocean Dunes. He helped organize the Daytona Beach Taxpayers League and was its first treasurer. He was a member of the Halifax River Yacht Club, the old Racing Club and the Ocean Dunes Club. He gave one hundred acres of property to the Daytona Beach Golf and Country Club. — ARTHUR K. HUNT, *Sec'y*, Longwood Towers, Brookline, Mass.

• 1890 •

M.I.T. '90 celebrated the 65th anniversary of our graduation on June 13, 1955, first by attending the Alumni Luncheon in the duPont Court at Cambridge, and then by a meeting at the MIT Faculty Club. Both were attended by Bartlett and daughter, Miss Bragg and guest, Carlton, Horton and a son wearing an MIT badge, and wife, Tilson, and Packard and wife. At the meeting there was a discussion of what should be done with a replica of the medal given to Sophia (Hayden) Bemmett in 1892 for the design of the "Womans Building" at the Columbian Exposition. It was "voted to leave this in the hands of Dr. Anderson, head of the Department of Architecture, for placing, if desired, but if declined it may be given to the Worcester Historical Museum, or with other books, records, photographs, and memorabilia, now held by the Secretary, shall be put in a properly marked box and turned over to Assistant Librarian Booth of the Hayden Library at an early date." As of this date, Sept. 11, the medal is in Prof. Anderson's office. The Secretary is no artist and is trying to turn this over to a Committee. The Flints write they have given up their apartment in West Chester, Pa., closed the house in St. Petersburg, Fla., and are offering it for

sale, and have settled down at apartment C-401, 425 Montgomery Ave., Haverford, Pa. — GEORGE A. PACKARD, *Secretary*, 25 Avon St., Wakefield, Mass., CHARLES W. SHERMAN, *Assistant Secretary*, 16 Myrtle St., Belmont 78, Mass.

• 1891 •

This class had its annual dinner at the Brookline Country Club on Saturday, June 11, 1955. Those present were Harry H. Young, president, Gorham Dana, secretary, and Messrs. Brown, Cole, Damon, Earl, Moore, Read, Tappan. This number was five less than last year when the list also included Messrs. Bunker, Howard Douglass, Walker, and Warren, together with Horace Ford, our honorary member.

Harry Young opened the business meeting and Gorham Dana read the cards received from those not present, including a cheerful letter from Frank Howard who, in spite of his troubles, was able to report, "I am dividing my time between a hospital bed and a wheel chair, under the care of a doctor, with competent nursing. At present I am trying to recover from a paralytic stroke to my left side brought on by a bit of indiscretion on my part two years ago. During these two years I have had a succession of resulting consequences for which I do not feel personally responsible. Infection and poor circulation necessitated the amputation of my left leg above the knee, but I still have my cheerful and hopeful disposition and am taking courage in the old saying 'You can't keep a good man down.' I am still represented at Tech by my eighth grandson, a member of the class of 1957, my two sons and four grandsons having graduated previously. Watch your step now that you are in your eighties." What wonderful courage Frank shows under very trying conditions!

Walter Douglass' son wrote to Harry Young that his father did not feel equal to attending the reunion, but would make a supreme effort on the 65th anniversary. Walter wrote, "I am enjoying the country life out here but find that each year my activities have to be diminished, so will this time send you and the group you have on the 11th my best regards and good wishes."

Marjorie Dove wrote that her father, Edward Wait, of 22 Temple Street, Boston, had hoped to be at our reunion but could not. "He is an architect of distinction who designed the Police Station and Fire Station, also the Winchester Trust and Cooperative Bank building in Winchester, and the Rockport Fire and Police Stations, and other important buildings. He finds this year rather confusing and tiring and is not able to attend the reunion."

William F. Keene writes from Wynchwood Gardens, Great Neck, N. Y. that he is "still quite active, run my own car, and feel fairly well." Several others sent cards — of regret — but gave no further data.

The secretary reported the following deaths in 1954: George A. Campbell, Louis A. Dunham, Philip Marquand.

Gorham Dana then read a paper on the life of John D. Runkle, second president of M.I.T. and long the professor of mathematics, which he had written for the

Brookline Historical Society. There was some discussion as to where he died; and Gorham thought he could settle it from his notes. He found the date but not the place of his death.

The meeting broke up at 3 P. M. after a very successful reunion.

Harry Young wants to thank the class for voting him council representative for the five-year term. — GORHAM DANA, *Secretary*, 44 Edge Hill Road, Brookline 46, Massachusetts.

• 1892 •

Three classmates only were present at the luncheon on Alumni Day, June 13, 1955, in duPont Court; Carlson, Ober, and the Secretary. Burnham sent his regrets on being unable to be with us because of a slight indisposition. None of our members were able to be present at the banquet that evening at the Statler.

On June 20th, the Secretary received a nice letter from Sumner B. Ely, who is still going strong as Superintendent of the Bureau of Smoke Prevention, City of Pittsburgh, Pa. Quoting from that letter, "Of late years I have not attended many class reunions as circumstances such as sickness and other things have prevented. Before that, in the earlier days I attended quite a number, but I fear of late, I have not kept in touch."

"One of my earliest and most pleasant memories is my friendship with Kales. He was at my house several times as he used to come from Detroit to Pittsburgh frequently and I have missed him greatly."

"After graduation, as you may know, I was with the American Sheet & Tin Plate Company, at that time a subsidiary of the United States Steel Company. Afterwards, I became their Chief Engineer. Later I was in business of light structural iron works, but at the death of my partner I joined the faculty of the Carnegie Institute of Technology as Associate Professor of Mechanical Engineering. I was with them until my retirement and the City of Pittsburgh appointed me as Superintendent of their new Bureau of Smoke Prevention which was just formed. I have been with the City since that date of 1941."

"I do not know that you understand how bad the smoke was in Pittsburgh at that time. It is hard to realize now the dirt and grime, lights on at mid-day, women with handkerchiefs over their mouths and visibility fifty or one hundred feet often. When we started to clear the city, we had the coal miners and the coal companies against us, as well as the railroads, the steel companies and large coal users. What solved the problem was that we got the general public behind us and that was an undertaking which took several years. A few enthusiasts cannot put over a big movement as you know from prohibition some years ago."

From a copy of his 1954 report, the following, taken from the U. S. Weather Bureau's "Smoke Observations" will be of interest.

"Pittsburgh's atmosphere can best be judged by experience. However, the United States Weather Bureau takes continuous measurements of the atmosphere. Reports for nine years are given below.

"They report heavy and moderate smoke. The Pittsburgh ordinance permits lighter than moderate smoke which would correspond to cigarette and cigar smoke. Today, it will be noted, there is practically no heavy smoke. The records show what this has been in past years, and its decrease each year."

"The Weather Bureau takes hourly readings from the roof of the Federal Building and grades the atmosphere into moderate and heavy smoke by observing how far an object can be seen. These measurements, therefore, are based on visibility."

Smog is a mixture of smoke and fog. However, the fog will evaporate as the sun appears, but if any smoke is present it will remain. There have been no smogs in Pittsburgh now for several years.

A reduction of Heavy Smoke in 1954 over 1946 has been noted as 98.7% less, and the reduction of Total Smoke in 1954 over 1946 is 85.8%."

The congratulations of his classmates are due Ely, with our best wishes for a long continuance of his successful career. — CHARLES E. FULLER, *Secretary*, Box 144, Wellesley 81, Massachusetts.

• 1894 •

Once more class notes are due, and the secretary will try to pass on a few after the hot summer, although reports from members are rare, unfortunately. The July notes made reference to Charles Abbot's work on the study of the effects of variations in sunspots and solar radiation constants on the weather. It may now be pertinent to call attention to an article which appeared in *Science News Letter* of July 16 in which it is stated that Abbot has predicted that the drought which has afflicted the Midwest since 1952 will end by 1957. He is also reported to have said that 60-year general forecasts of weather are possible for any place in the country for which sufficiently detailed local records are available, barring modifications caused by volcanic eruptions or heavy bombing. It may be wondered if he was able to predict the extremely hot weather in the northeast, or more recently in California. We await a personal communication on these matters.

Norwin and Mrs. Bean seem to be due for praise as the only members of the class to be at Alumni day at Tech on June 13. Your secretary and wife would have been there, but they had to leave the day before to attend the national meeting of the Institute of Food Technologists at Columbus, Ohio. We regretted not being able to be at M.I.T. but there were some pressing reasons for being at Columbus.

With great regret and personal sorrow the secretary has now to report the death of Austin Sperry on July 18 in Berkeley, Cal., in the 83d year of age. He had been reasonably well until less than two years ago, when his health began to fail and his eyesight became impaired. In November he was injured in an automobile accident, although apparently not seriously, but his physician feared that there might be delayed action which would intensify existing ailments. As a result Austin gave up his San Francisco office and began to attend to his business affairs at home in

Berkeley. In June he spent two weeks in the hospital, seemed better and returned home, but after three weeks there he returned to the hospital, and lived but one day.

Austin was born in Stockton, the son of the founder of the Sperry Flour Company, one of the early milling operations on the West Coast. He later lived in San Francisco and came to M.I.T. in 1890 as a freshman, and chose the course in Mechanical Engineering with senior work in Marine Engineering. The year following his graduation in '94 was spent in graduate work in Naval Architecture at the University of Glasgow. Returning to San Francisco he started his career with the Union Iron Works, later establishing his own business, The Maine Iron Works, with which he remained until he retired from professional work. After the great fire of 1906, which had seriously affected many industries, he established his home in Berkeley at 2534 Warring St., and there he and his wife lived most charmingly up to the time of his death. He had been for many years a member of the famous and delightful Bohemian Club, and regularly attended the notable summer gatherings at "The Grove," known the world over, and which he greatly enjoyed. He was a member of the Society of Naval Architects and Marine Engineers, and at M.I.T. was a member of D.K.E.

He is survived by his (charming) wife, Elsie B., a son, Austin Sperry, Jr., of Lafayette, Cal., and three daughters, Mrs. Donald Cooksey and Mrs. Francis Frederick of Berkeley, and Mrs. C. L. Bisbee of Seattle and ten grandchildren.

The secretary not only feels a deep personal loss because of the friendly associations and memories of recent years, but is also certain that all classmates who knew Austin at the Institute and since will have a similar sense of sorrow and would wish to extend deep sympathy.

A letter from John (Jack) Nowell of San Mateo had brought the secretary the first news of Austin's passing. We had on several occasions been his luncheon guests at the Bohemian Club, sometimes accompanied by A. E. Fowle, '93, and these occasions were miniature M.I.T. reunions of much enjoyment. A later letter from Jack brought a pleasing comment of *When M.I.T. Was Boston Tech*, and some very interesting facts regarding the formation of the M.I.T. Society of New York, now "The M.I.T. Club of New York, Inc." Jack sat in on its promotion in 1894, and he and nine other '94 men, H. R. Barton, A. A. Clement, J. H. Gardner, H. E. Johnson, W. D. McJennett, C. A. Meade, C. D. Pollock, F. M. Southard and G. A. Taber, were among the Founder Members. Of these Johnson and Nowell survive and live in California, and Nowell still pays dues as a non-resident member, although it is nearly sixty years since he left New York to go to Philadelphia for the Telephone Company and later for his long service in the Pacific Coast Company. There's loyalty for you! Jack sent me a copy of the first Directory of the Club, dated 1895, and this will be taken to the big 60th meeting of the Club and exhibited by Executive Vice-President Lobdell, and then returned to the owner.

It is a pleasure to report that after his hospital experience of several months ago George Owen is again well and active, although not doing any yacht racing this season as he has often done in past years. As the designer of the fiberglass dinghies now making up the larger part of the Tech fleet, George is deeply interested in their performance and maintenance. The collection of models of yachts he has designed is in the Nautical Museum.

It is always interesting to get a letter from any of the class, and an inquiry about the Refrigeration Research Foundation of which your secretary has been Chairman of the Board of Governors since its foundation was received from Jim Kimberly with much interest. This organization is a very active one, sponsored and supported since 1943 by members of the National Association of Refrigerated Warehouses, and many valuable researches have been carried out in university and technical school laboratories through the allocation of funds for research purposes. M.I.T. is one of the institutions to which special problems are frequently referred for study, and is one of eleven scattered over the country to be so used. The Department of Food Technology is the center for such a study, as here the wide range of scientific and engineering information in the many associated departments can be drawn upon with success and satisfaction. The graduate fellowship supported by the foundation and to be named for your secretary was mentioned in the July issue of the Review. — S. C. PRESCOTT, *Secretary*, 16-317, M.I.T.

• 1895 •

Your secretary had a birthday recently and at 83 his typewriter is still ticking. He hopes it may tick a little longer! It is interesting to quote from the Cleveland, Ohio, "Plain Dealer" of May 26 last, that our "Al Sloan" also had a birthday last May, and at 80 he still maintains his optimistic prophecy of business life, and retains a mental vitality possessed by not too many at his age. A generation ago he remarked: "Progress is measured by the advancement and well being, socially and economically, of those who work for wage or salary — those who are dependent upon their own effort." Recently expounding the same thought, he urged business "to be bold in expansion and development. A little foresight and courage will lead to higher standards of living, great productivity and a better America for all." Of future opportunities he says: "What the industrialists of the past 100 years have done is a mere beginning. The greatest opportunity for enterprise still lies beyond the horizon. That will always be so, as long as our scientific knowledge continues to expand. The future world belongs to the young, the adventurous. But they must have courage and initiative to reach out and grasp it, and then the willingness to retain it."

We regret to record the passing of Winthrop Dana Parker, on July 6, 1955. This information came to us from the Alumni Record. "Win" Parker was an architect throughout his business career. After leaving Tech he worked as draughtsman

in offices of the following Boston architects: 1895-6 Little, Brown and Moore; 1896-8 Stephan Codman; 1898-00 John L. Faxon; 1900-5 Wheelwright & Haven. Since April 1905, he was a member of the firm of Adden and Parker. According to our records, he was never married, was somewhat diffident in nature but had a most likeable disposition. He was a member of the Boston Society of Architects. He is quoted as saying: "Admitting some backwardness, matrimonially speaking, my accomplishments otherwise have been that of an absolutely ordinary citizen." He lived in Reading, Mass. and always entered into the local civic, religious, and social organizations of the community. He became interested in Boy Scouts, starting as an Assistant Scoutmaster, and eventually became a Scoutmaster of a troop. We do know that during the past months he was failing mentally, and passed on without any information to us as to his whereabouts.

The 60th Reunion of the Class of 1895 has passed into history. Mrs. Yoder and your secretary were unable to attend any of the events, but the records do show there were two mates who mustered courage to attend in part the festivities of Alumni Day and the Alumni Banquet. Frederick L. Richards attended the Alumni Day events, and Samuel P. Hunt was at the banquet. In viewing the photographs of assembled alumni at the banquet, in the July Review, you will note that Sam Hunt was seated at the 90 to 95 table — but was registered as 1891. Your secretary soon discovered the error by recognizing the back of Sam's head. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

Greetings — and back to school! We never cease to learn despite the years and may we all approach the calendar year with enough energy to meet our ambitions. Our old class yell "Rackety-rix co-ix co-ix" is surprisingly inspiring even at this day, and brings back memories of our hopes and plans for our present day program. Many have suffered from the various record breaking climatic outbursts to some degree of discomfort and loss. What a year this has been, and can we guard against repetition in the future? A number of our classmates have been constructive in planning defense measures against floods and tides as well as checking the damage of erosion and drought. These contributions by Hyde, Leighton, McAlphine and others are permanent safeguards in so far as is humanely possible. We all feel that our class has been outstanding in its contributions to the engineering approach to the solution of many of these calamities. But who can completely resist the forces of nature when unleashed.

The following list are those who attended Alumni Day June 13th. Damon, Davis, Driscoll, Gates, Hedge, Pauly, Rockwell, Rundlet, Smetters, and Litchfield. The following notice was received after our last notes were sent in. Minor S. Jameson, 13 Oxford St., Chevy Chase, Md., died May 20th, '55. Augustus J. Bowie, 2513 Octavia St., San Francisco

Cal., died June 22, 1955. "Who's Who in The West" informs us that Augustus Jesse Bowie was born in San Francisco on Dec. 10, 1872. He received his A.B. from Harvard in 1893, and his S.B. from M.I.T. in 1896. For many years he was the owner of the Bowie Switch Company, during which time he designed and patented many high voltage inventions for use in industry. Change of address has been received for Mrs. Frank Churchill, from Cambridge, Mass. to Bass River, Mass. and for Charles E. Batchelder from Palm Springs, Calif. to 2501 French St., Santa Ana, Calif. A card from Jack Eynon from Europe, dated June 30th reads: "Celebrating 82nd year by a month in Europe. Flew over new Scandinavian air route Los Angeles to Copenhagen on the 'Polar Flight.' Midnight sun a novelty. However no place like home and beginning to yearn for same." A letter received from R. E. Bakenhus, when he was on vacation in Kennebunkport, Me. dated August 11 states, in part: "I keep up my piano work. Recently I played Beethoven's 'Moonlight Sonata' (all three movements) at the Episcopal Actor's Guild of the Church of the Transfiguration here in N. Y. I am now practicing some of Chopin's numbers to play for some friends that will be in N. Y. with us soon. I have the good fortune to be in good health. The piano music is a good thing to keep one's mind occupied with something worth while and beautiful." — JOHN A. ROCKWELL, Secretary, 24 Garden St., Cambridge, Mass. FREDERICK W. DAMON, Asst. Secretary, Commander Hotel, Cambridge 38, Mass.

• 1897 •

At the Alumni Day luncheon in the Great Court on Monday, June 13th, there was a small gathering of "old faithfuls" including Bill Binley, Luzerne Cowles and son, Jere and Mrs. Daniell, George and Mrs. Wadleigh and the undersigned. I personally did not attend the banquet at the Statler, being allergic to banquets, but I understand the following from '97 did do so — Binley, Daniell, Walter Humphreys and Wadleigh. The ladies banquet was attended by Mesdames Daniell and Wadleigh.

Your Secretary Pro-tem sent a small contribution in behalf of the Class in memory of John R. Macomber to the Mass. General Hospital. In addition to a formal acknowledgment, the following note was received from the manager of his Framingham Estate. "We received a card from the Mass. General Hospital, that the M.I.T. Class of 1897 had sent a contribution in memory of John. I only wish I could tell him of all the wonderful friends he had and the tributes they had made to him. Please thank the Class for thinking of him. Grace G. Weyhart."

The following editorial appeared in the *Framingham News* of May 12th: "Yesterday, toward evening, word that John R. Macomber had passed away sped from one to another of his friends. Last night that word spread far and wide for Mr. Macomber was a man of many far-reaching relationships and responsibilities. In many a business office where large affairs are dealt with and in numberless institu-

tions caring for many kinds of human needs, or large financial interests, or manifold cultural establishments — there came a sense of great loss. He had a remarkable personality; his was a power of mind and character that made strong men enlist his strength in safe guarding and carrying on large interests and responsibilities. He could be heavy-handed when he thought it was called for. Yet his sympathy and helpfulness were tender and gracious when he saw occasion for it. We who here try to write truly of this remarkable man now that he is gone can personally bear witness to what friendship meant to him. He lived on Salem End Road in Framingham all his life. Everybody knew of his baronial "Race-land" estate near his birthplace and of the occasions he there made for the pleasure of the general public. But comparatively few of our townspeople knew him personally. Yet his name was widely known and his abilities highly honored as few citizens of Framingham have ever been known and regarded. We may not write more intimately of this man as we knew him. He would not have us do so — and that is enough to silence further tribute. We join his friends, now that illness and suffering have ended, in being thankful that he is at rest.

We are appreciative and much indebted to Proctor Dougherty who continues to keep information regarding our classmates rolling in as you will realize from the three items that follow: Too late for the July issue of the *Review* he wrote: "Commander Hunnewell left May 24 with Mrs. Hunnewell for New York to take a boat to Europe, to be gone two months and travel from Italy to Switzerland, Germany, France, England, etc. He has promised to keep diary notes of things of special class interest and write it up on the return voyage so as to turn it in as promptly as possible." Proctor also sent in the following from one about whom we have heard but little in recent years: "Henry M. Loomis, (Course V) is now living in retirement at the Ontario Apartments, Washington 9, D. C. and would like to hear from any of his classmates whose memory is long enough to recall him. 'Regarding my life after graduation I submit a brief outline for those who may care to read it. I first took a job as salesman with Eimer & Amend, Chemical Supplies, New York City, 1897-8. I was next employed (1) as chemist and finally as superintendent of the bleaching powder department of the Mathieson Alkali Works, 1898-1902, and (2) as chemist of the Acheson Graphite Co., Niagara Falls, N. Y. 1902-1904. From 1904-1907 I served as a chemist for the Pennsylvania Dairy and Food Commission. Following that was appointed a food inspection chemist in the Bureau of Chemistry, U.S. Department of Agriculture, and was successively, Chief of the Galveston, Seattle and San Francisco laboratories, Member of the Board of Food and Drug Inspection 1913-14, and chemist in charge of Food Control until May 1, 1916. I then left the Government service to take charge of cannery inspection for the National Canners Association until 1921. After that I was appointed Assistant Secretary of

that Association, in charge of the Claims Division, until retiring in 1946. I have been a member of the American Chemical Society since 1905, Vice President of the Washington Section in 1916, and a member of Cosmos Club, Washington, since 1915. My hobbies included golf and fishing, but are now principally stamp collecting, playing bridge and growing African Violets. I am reading "When M.I.T. was Boston Tech" and enjoy it. I see Commander and Mrs. Hunnewell frequently at the Cosmos Club now relocated on Massachusetts Avenue. Proctor Dougherty is not seen so often as he is a member of the University Club, but I feel his sharp stick when he is after me to do something." Proctor's third item is: "George H. Holmes'24, my brother-in-law is a mining engineer in Reno, Nevada. He writes me that he 'called on Edwin P. Osgood'97 at his home and had a splendid evening. Found him in very good physical condition and he nearly every day was out in the hills locating and surveying mining claims. Also Osgood works in town on property lines and subdivisions. He is thin and sports goatee-like chin whiskers. He is still very energetic and jumps over fences and hedges instead of taking the easy way around. He has been a farmer and a rancher. At Fallon, Nevada he and one of his sons have a ranch. A second son is manager of a hotel at Winnemucca. The third son lives in Reno and works with his father. In addition to being a mineral land surveyor, Osgood still does a lot of prospecting.

"How and where are you passing this hot summer? I am at The Farm, here in Franklin as usual, putting up with the temperature as best we can! Highest by my porch thermometer 96°. Highest in the vicinity 106°!! Best solution, in the water on our private beach where bathing suits are often discarded! Have just received through a mutual friend the sad news of the passing of an old '97 friend, Paul Holmes Delano, of North Plymouth, Mass. Don't know if you will remember him at all but he, with A. V. Curtis and myself were much together during our freshman year. All three booked for Course XIII but Paul shifted to Course I, then had a severe illness and between one setback and another he did not get his degree until 1900. Really don't know which class he was most affiliated with. He used to call himself facetiously "Tech's Wandering Jew." Anyhow, on his graduation we shipped for Europe together taking our bikes with us. Sailed on July 4th on the "Saint Paul" of the American Line and were in Paris for the big doings on Bastille Day. Last saw Paul about three years ago at his home in North Plymouth and at that time he seemed to be well and enjoying life. I think that Mrs. Delano, if you wrote to her, would give you a sketch of his life. It is sad to lose one of your oldest friends even if you don't see them too often. I feel Paul's loss greatly. Have looked over the last three numbers of the *Technology Review* and find no notice of his passing under any class heading. Possibly it might be well to ask the 1900 Class Secretary if he has the news. [Nothing much interesting about the Daniells.] Had a long

motor trip to Sudbury, Ontario, 689 miles to take a wife and daughter and various and sundry household articles to a nephew of Mrs. Daniell's who is a mining engineer with the Int. Nickel Co. just starting in. Found a real mining community. Not beautiful by any possible standard, but evidently thriving. Jere Daniell."

We have been notified of the following changes in address: Walter F. Buck (Course VI) 54 Naples Road, Brookline 46, Mass.; James W. Smith (Course XIII) Tower Hill, R.F.D. Brimfield, Mass.; Prof. Alpheus G. Woodman (Course V) 376 School Street, Watertown 72, Mass.

A clipping bureau quotes from the *Washington Post and Times Herald* an article advising that Henry M. Loomis referred to above was honored in April as a 50-year member of the American Chemical Society.

It will be remembered that one of our Class reunions was held at Boxwood Manor, Old Lyme, Connecticut. George Wadleigh writes that he and Mrs. Wadleigh had visited there this summer and found the accommodations satisfactory. He reports as Class Agent an anonymous contribution to the Alumni Fund by a member of our Class of \$200. This naturally arouses our curiosity as to the identity of our generous but modest and retiring classmate.

We had the privilege of attending the first Alumni Officers Conference on September 9th. About 350 alumni from all over the United States were present and around 50 from the faculty. Morning and afternoon sessions were held with informative talks by faculty members. Later there was a reception at the President's house, a buffet dinner at Walker Memorial, and an address by President Killian. Of particular interest was Dean Harrison's statement of the rapidly increasing demand for physicists and expert mathematicians and a description of the proposed nuclear reactor to be located on the campus. The reactor is to be of an unusual type designed principally for the production of neutrons and gamma rays for therapeutic purposes rather than for power. — JOHN P. ILSLEY, *Secretary-Pro tem*, 26 Columbine Road, Milton 87, Mass.

• 1898 •

The Class of '98 was represented on Alumni Day, June '55, though not so numerous as on previous Reunions and Alumni Days. At the luncheon were present Agnes and Elliot Barker, Jean Blanchard, Marion and Edward Chapin, Fred Dawes and Daniel Edgerly. Dan came all the way from Chicago. In the evening at the Alumni Banquet in Hotel Statler were present Barker, Chapin, Dawes, Edgerly and Nelson. William Bundy Nelson came over from his summer home on Lake George. Two regular '98 attendants were missing: our perennial Alumni Chairman and twin president, Lester D. Gardner, and our honorary member, George R. Harrison, Dean of Science. Both had good excuses. George Harrison was at Middlebury College, Vermont, accepting a degree of LL.D. Following is the citation:

"George Russell Harrison — For many

years the distinguished institution which you serve and Middlebury College have been closely associated in a joint educational program. As a man of science in war and peace, you have helped to convert the unknown into fruitful knowledge; as a teacher and administrator, you have influenced the characters and careers of hundreds of young people."

Lester, en route to the West, sent a card of greeting, and later a letter, from which we shall quote in part in this and later Class Notes. A most extraordinary trip, and we will enable Lester's many friends in '98 and in other classes and at M.I.T. to judge for themselves.

"Group Letter No. 1. Lester D. Gardner, New York to La Jolla June 2-18, 1955. Many years ago I sent what I termed group letters to friends. They enabled me to save writing many individual letters and seemed to interest those who received them. I had been invited to two startling events: The Fifth International Aeronautical Conference to be held in California June 2-July 1 and the dedication of the new U. S. Air Force Academy at Denver on July 11. I started the trip on June 2nd with a flight to Pittsburgh to visit my cousin, Marcia Oviatt, whose husband Allen is an old airplane pilot. Three days of rest in their comfortable home prepared me for the more strenuous visits ahead. On the sixth of June, I flew to Dayton. At the Pittsburgh airport while enjoying the luxurious Ambassador's Club, maintained for a select group of friends of Trans World Airlines, I was tapped on the shoulder by a friend of many years, Cliff Ball, who is President of the Pittsburgh Aero Club and manager of the airport. To my great amusement I received later a bulletin of the Club from which I quote a part — 'Lester Gardner — grand patriarch of aviation — was a brief visitor at Greater Pittsburgh airport Monday June 6th. Mindful of his forty years experience in aviation, his voice was subdued and a tear in his eye as he stated "Greater Pittsburgh Air Terminal is magnificent — typifying progress in all aviation since our landing strips were called airdromes and we hanged our planes in the farmer's barn." ' He follows with a very complimentary record of my aviation career. It was a great pleasure to swap reminiscences with one of the greats of early aviation — one who promoted early air transport and is still active in the popularization of flying.

"In Dayton, I was met by H. S. Miller, Executor of Orville Wright's Estate, who drove me out to Wright Field to see the new Air Force Museum, where the director Mark C. Sloan, met us and showed us the very interesting beginnings of an ambitious project to have a central producing museum which will provide other Air Force centers with exhibits of models, dioramas and historical exhibits on loan. It is a very worthwhile project and deserves great support. We drove to the Dayton Art Museum and I saw the collection of many medals and trophies given the Wright Brothers. Happy memories passed through my mind of the many interesting visits I had at Orville Wright's home on Hawthorne Hill. My intimate acquaintance with him, who will be one of the greats of American invention, will

always be one of the treasured experiences of my life. After a pleasant visit with Ivonette, Mr. Miller's wife, who is the niece of Orville Wright, I was driven to the Airport and flew to Cincinnati.

"At Cincinnati, on my first day I had lunch with my old friend, Prof. Bradley Jones, Head of the Aeronautics Department at the University of Cincinnati. It was there that the plan was originated for students to study a half year and work a half year in an aircraft factory. Result: his students know certain specialized manufacturing processes by actual experience, so that when they graduate they are in great demand. He is one of the real pioneers of aeronautical education in this country. That evening, my classmate, Rudolph Tietig, and his lovely wife, Margaret, called for my cousin Jennie and me. They drove us through several beautiful parks, some overlooking the yellow Ohio River, after which we had a delightful dinner and evening in their lovely home." (To be continued.)

Lester sent us a card from Cincinnati advising of his evening with the Tietigs; and we wondered how, on a trip to California, he happened to be in Cincinnati until the letter arrived. Lester, with his innate modesty, protested my proposal to run extracts from his letters serially in the Class Notes. What say you, gentle reader?

In August, Prof. Arthur and Jean Blanchard celebrated their Golden Wedding Anniversary in their home at 25 Evans Road, Brookline. Relatives and friends from far and near came to assist in the joyful occasion. All four of the children and six grandchildren were present. Mr. and Mrs. Malcolm Blanchard and their three children flew from Portland, Oregon; Mrs. Frederic (Helen Blanchard) Cowles came from San Marino, Calif.; Mrs. William (Shirley Blanchard) Hammond and three children came from Scarsdale, New York; and Dr. and Mrs. Joseph Blanchard from Mt. Kisco, New York. The bride and groom of fifty years sat in chairs in their spacious parlor and received their friends. The bride held a bride's bouquet, a lovely arrangement of yellow rosebuds and white baby's breath. There were numerous other floral tributes. The groom's gift to the bride was a sapphire ring, a large sapphire with encircling diamonds. Several of the M.I.T. professors and friends were present: Prof. and Mrs. Carl Haywood, Prof. Samuel Prescott, and Prof. Miles Sherrill and Miss Sherrill. '98 was represented by Agnes and Elliott Barker, the Misses Cottle, Louise, Clara, and Phoebe and George Cottle, and Marion and Edward Chapin. The day was perfect, cool (August '55!)

Our versatile classmate, Roger W. Babson, is interested in many industries. Among the many is the lobster industry, as indicated by the following article from the Boston Herald: "Dwindling Lobsters Worry Roger Babson — A noted statistician produced a lot of figures about lobsters today, but boiled down, Roger W. Babson wants to know how to get more big lobsters from little ones. So do a lot of fishermen. The 80-year-old statistician and his wife boarded the 118-foot yacht *Chanticleer* yesterday at Gloucester, Mass., which anchored off Falmouth last night and proceeded to Boothbay Harbor today. Babson, who said he controls a big lob-

ster company at Gloucester, will visit the Maine lobster hatchery at Boothbay. He expressed concern over the dwindling supply of lobsters and the fact that few of the little ones reach maturity. 'Out of a hatch of 60,000 from one lobster,' he said, 'only two or three little ones in a thousand ever grow up. We've got to do something to increase this, perhaps by building special tanks to rear them longer instead of dumping them in the ocean when they're a quarter-inch long to be eaten by fish.' Babson said the real future of the lobster industry lies in hatcheries. He added: 'We can sell all the lobsters we want, but our difficulty is in getting them . . . the farther we have to haul them the greater the loss.' In his father's time, he said, lobsters were plentiful off Gloucester. Then boats moved along the coast of Maine, later to Nova Scotia and now to Newfoundland, he added."

Lester Gardner, George Cottle and the Secretary attended the First Alumni Officers Conference held in Cambridge on September 9 and 10, 1955. This Conference is written up elsewhere in the *Review* by Editor Dudley, and we would urge all members of the Class to study this description of a most momentous and significant gathering. There were approximately 400 in attendance; some coming from great distances, as Rio de Janeiro, Mexico, California; and the impact of this assembly of alumni, mostly busy men taking time out from their business activities in the interest of their Alma Mater, was terrific. The Conference considered the increasing demand for scientists and engineers; what the Institute is doing about it; and how the Alumni can help. The opening address, "Problems of Growth at M.I.T." was given by our honorary member, George R. Harrison, Dean of Sciences at M.I.T., and he also presided at the Friday morning session. President Killian stated in his address Friday evening, that the Institute is now fourth in point of assets among all the institutions of higher learning in the country, being exceeded in this respect only by Harvard, Yale and the University of Chicago.

President Killian, with his usual courtesy and tact, preceded his formal paper by remarking that Lester Gardner was the original proponent of the beaver as emblematic of M.I.T.; and that Lester had recently raised \$352,000 to endow a professorship in Aeronautical Engineering.

En passant, speaking about the beaver, how many remember the All Technology Reunion at Nantasket Beach during the presidency of President MacLaurin, the pantomimes on the beach, and the '98 pantomime, when Lester Gardner dressed as a hunter, with tall hat and blunderbuss strolled along the beach looking for an appropriate animal to represent M.I.T. The Secretary roared up as a lion, and other classmates, variously representing a tiger, a leopard et al; but no, none of these would do. Then came up the beach, slowly, an immense papier-maché beaver, propelled by six classmates inside, under the leadership of Ernest Russ; and that was the appropriate emblem for busy M.I.T. Next day, by the bye, the Boston Herald reported that a strange contraption had been washed up on the rocks at Minots.

Those classmates who have never visited M.I.T. since our graduation in 1898 can hardly visualize the marvelous growth which has brought M.I.T. to the position of fourth in assets in comparison with all institutions of higher learning in the country. Impressive buildings extend a mile or more along the Charles River Basin and for an eighth of a mile more or less, to the west. There are available numerous booklets and pamphlets, which graphically portray the present M.I.T. These were distributed at the Conference, and it is amazing the thoroughness and completeness and the interesting matter of the publications. We will list a few: General Catalogue, the most complete information available on curricula and other particulars of the educational program; Undergraduate Catalogue ("This is M.I.T."), a description of educational opportunities, student activities and living at M.I.T.; A Scientist Speaks, excerpts from the addresses of Karl Taylor Compton; Scholarships for Freshmen, details of scholarship opportunities for freshmen; Humanities and Science, a leaflet describing the new opportunities open to the student interested in combining basic and advanced subjects in one field of science or engineering with one of three fields of humanities; and finally, A Visitor's Guide, a folder describing M.I.T., buildings and activities, concisely and succinctly, with an illustrative map. If you wish to make a trip through the present M.I.T. and are prevented by distance or some other reason, the literature above cited, obtainable by writing to the M.I.T. Alumni Association, will serve as a very good substitute, guiding you through the buildings and the spirit of M.I.T.

Another classmate has passed within the Unseen Temple, Joseph H. Sears. As yet we have no further details for the Class Notes. We remember Mike, as we boys in Course V used to call him, and particularly that at the time when we were working on our theses in Old Walker, Mike's thesis had to do with the liquefaction and solidification of gases. We well remember Mike walking around on the roof of Walker, exhibiting a brick of frozen carbon dioxide. We shall miss his cheery smile at our Reunions but not forget him.

Kindly note the Secretary's change of address. — EDWARD S. CHAPIN, *Secretary*, 2 Gregory Street, Marblehead, Mass. ELLIOTT R. BARKER, *Assistant Secretary*, 20 Lombard Road, Arlington 74, Mass.

• 1899 •

Nine members of the class came back to their Alma Mater on Alumni Day, — a truly remarkable record for a class as old as ours. — Glover, Kinsman, Packard, Richmond, Rickards, Schmidt, Sherrill, Skinner and Witherill came to the class luncheon. All of these men except Glover, Packard and Schmidt were also at the alumni dinner. The M.I.T. Wedgwood plate given to each one present at the dinner was a welcome change from the former steins. Your Secretary has enough steins from previous years to set up a beer parlor. Next year at the class luncheon look for a table allotted to '99 and then you will be served.

Most of the classmates visited the

new auditorium and inter-denominational chapel, each a welcome addition to M.I.T. facilities. The question arises as to whether the architect for the Chapel was a Baptist since a wide moat surrounds this building.

The total sum contributed by the Class to the Alumni Fund during the last college year was \$1810.90. This sum, duplicated, all goes toward the Karl T. Compton Memorial Laboratories, a most fitting tribute.

Miles Sherrill's trip through the free part of Europe last year evidently inspired George Glover IV and his wife to study geography at first hand in celebration of their 50 years of married life. George chose an entirely different itinerary, however, visiting Puerto Rico, Cuba, Venezuela, Haiti, Martinique and Trinidad. But what impressed them most was the new highway over and through the Andes from LaGuira to Caracas.

Norman P. Rood, IV writing from Mexico City says it is growing to look more like Chicago every day; thus losing much of its old Latin charm which your Secretary enjoyed when he was there some fifty years ago.

Harry Mork, V, and Dudley Pray, V, attended their 61st Boston English High School reunion on May 18th and thus got their pictures in a group photo published in the Boston Herald on the following day. I don't think their classmates would have recognized them.

Fred Waddell has retired at the ripe age of 80.

In a letter from Edmund T. Stewart, IV, of New Rochelle, N. Y., received March 22, 1955, he told of his many activities and plans in his chosen field of architecture. A paragraph outlining these activities appeared in the class notes in the June issue. Now I am obliged to record his sudden death from a heart ailment, which occurred on May 11, less than a month after the receipt of a second letter, dated April 20, thanking me for writing him. Perhaps this should serve as a warning to the rest of us who have reached near the end of the seventh or the beginning of the eighth decade of life, that it is time to slow down and take life at a slower pace as Waddell has done.

Other death notice records are those of Col. Brainerd Taylor of Mansfield, Mass. on August 13th, who attended our 55th reunion a year ago; Edward Bergstrom, IV, of Claremont, Cal. which occurred on June 17; and Dr. Emma Erving, VIII, Hartford, Conn., on February 23, 1955. — B. R. RICKARDS, *Secretary*, 381 State Street, Albany, New York; MILES S. RICHMOND, *Asst. Secretary*, Little Compton, Rhode Island.

• 1900 •

Our 55th Reunion followed pretty much the same pattern of those we have held annually since our 50th, except that it came before Alumni Day this year instead of after it. We gathered at The Pines in Cotuit on Thursday, June 9, remaining there until Sunday. Twelve of the Class showed up, accompanied by 16 guests. To enumerate them, they were: George Atwood and wife; Bob Blair and wife; Zenas Briggs; Stan Fitch and

daughter Katherine Forbes; Bill Hart and wife; Walter Kattelle and wife; Jim Patch and wife; Paul Price, his wife and daughter, Mrs. Elinor Allen; Harry Thayer and wife; Arthur Walworth; Percy Ziegler; and the Secretary and his wife. We were exceedingly happy that Minnie Lawley and Alice Newhall also joined us. Geta and Lydia Crowell and Larry Thayer and his wife visited us while we were there, much to our delight.

We were fortunate in having good weather and the reunion was a most happy one. It is often remarked that each annual reunion is better than any previous one. Perhaps this is because about the same ones come each year and we get better and better acquainted. Nevertheless we would be most happy if others would join us on these occasions. Our time was spent, quietly, in enjoying each others company, renewing acquaintance, reminiscing and the like. The most violent exercise indulged in was shuffle board! Our evenings were spent in sociality about the fire-place.

On Monday we joined in the festivities of Alumni Day. Eleven of the Class with six guests met at the luncheon table. They were: Brock, Conant, Fitch, Kattelle, Newhall with his wife and son, Patch and wife, Smith and wife, Stearns, Walworth, Ziegler and the Secretary. We were happily joined by Mrs. Cotting and Mrs. Lawley. Beside the sociability of the occasion, we greatly enjoyed the program. This you have read about in the July Review and it need not be repeated here. In the evening six of us, Conant, Fitch, Kattelle, Stearns, Ziegler and the writer met at the banquet which you have also read about.

Since the last issue of these notes we have learned of several deaths. Philip F. Ripley of Andover, Mass., died on April 25, 1955. We carried a brief item about him in the February issue of the *Technology Review*. He joined us in our Sophomore year, a graduate of Yale University, and was a member of Course V. He was evidently held in high esteem in his native town as was shown in the tributes paid him in the local papers. We quote brief excerpts from them. "Andover born, he was a type of man far too rare. He gave generously of his services to our library, savings bank, public schools, and trusteeships in many lines of Andover's business activity. He was a lover of home and a pillar of the South Congregational Church. In his faith and conduct he was a conservative. As a man of strong convictions, he presented his views with clarity and fairness. He discriminated between principles and opinions. His charities were many but always and unostentatiously executed. Phillips Academy, Yale, M.I.T. and studies at Heidelberg furnished his main field of preparatory study after which he served over a span of years as chief chemist of the American Woolen company with high technical skill and marked efficiency. He was a skillful golf player and a devotee of a variety of sports and games in which he was a participant as well as an observer. During his entire lifetime, he retained his keen enjoyment and understanding of the best in music. He was best known in Andover as a man of judgment, wide knowledge, probity, and true to the best New England tradi-

tion as an unassuming, conscientious and splendid citizen."

Paul Holmes Delano died May 25, 1955. He entered the Institute with the Class of '97, but owing to illness and other circumstances was delayed in graduating until 1900. He lived in North Plymouth and attended our 50th reunion. Mortimer Silverman died in New Orleans July 18, 1955. A native of Pittsburgh, he attended Chauncy Hall School, Boston, and the University of Pittsburgh before entering M.I.T. where he graduated with us from Course VI. He was in the testing department of the G. E. Co. and occupied positions with numerous traction, light and power and manufacturing companies before becoming assistant to the President of the United Merchants and Manufacturers of New York and later assistant to the President of the Boston and Maine Railroad. He removed to New Orleans in June 1954 as reported in these columns of the July 1954 issue. He is survived by a son, Mortimer, Jr. of New Orleans and a daughter, Mrs. William McKenzie of East Meadow, Long Island, and five grandchildren.

Your secretary has received a copy of a deluxe volume entitled "Fifty Years—1905–1955—Leonard Construction Company—Chicago, Illinois." This amazing volume attempts to summarize the construction work done by Cliff Leonard's company during those fifty years. Cliff may well be very proud of the showing which this volume gives of an enormous amount of important construction work all over the United States and in fact all over the world. The Class of 1900 is certainly proud of the accomplishment of one of its members.

Among letters of regret that they could not attend our reunion last June, we note one from Bill Clarke stating that he was continuing his recovery from an operation last Spring but that he did not yet feel fit to take the long drive from his home in West Woodstock, Connecticut to Cotuit. We hope that by this time he has fully recovered.

A letter from Francis C. Lincoln states: "While I enjoy good health, the trip East would be too strenuous for me. Almost all Easterners come to California at some time during their lives, and if you, or any other of my old classmates should make the trip in the future, I sincerely hope that they will make it a point to look me up. I am retired, live with my wife and my hobbies are gardening, philately and color photography." His address is 326 I Street, Chula Vista, California. And Leigh Keith writes from Villa Park, Ill., "I retired in 1947 and have not been East since 1950. Last year I spent two months at the Veterans Hospital at Hines, Ill. for an operation. Since then I have been in good health but do not travel about much."

The writer and his wife visited in Seattle for six weeks this Summer visiting old haunts and looking up old acquaintances some of whom we had not seen for fifty years. We traveled by plane and the entire trip was a great success. Among other benefits, we had a very cool summer instead of sweltering in the heat of the East.—ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

I have first to record the deaths of two classmates last spring. Charles Denison, X, was born in Chelsea, Mass. in 1877, graduated from the Chelsea High School and M.I.T. He worked for many years in Cambridge for the American Rubber Co. and the Cambridge Rubber Co. While in Cambridge he developed the balloon material used in World War I. Since 1937 he has been head chemist for the Archer Rubber Co. of Milford, Mass. He died very suddenly on March 15, 1955 from a heart attack. The above news came in a very fine letter from his wife, Charles A. Record, II, died in Wellesley, Mass. on May 26, 1955. During his later years he was employed by the Wellesley National Bank.

I quote in part from a letter by Ed Davis, our Class Agent, who has done a fine job. "Our class roster went down (by death etc.) to 111. Of these 61 made specific contributions. To these the Fund office added six as having allocation made from life membership and the resulting 67 represented 60 per cent of the roster. We reached this figure of an even 60 through the offices of four classmates who could make only token payments in order to be counted. These, and nine others giving \$5 made a total of 13 at that limit. From there to and including \$20 came 20 more. From \$25 up to and including \$45 came 13. The \$50 givers were five and the \$100 givers eight. The two grandstand artists gave \$900 and \$10,000 respectively. Six of our givers sent in second gifts and one no less than four. The general standing among classes will be shown in the Fund report in the Review. It will be most creditable." Ed ends his letter by wondering why the rest of the class did not give. There were, of course, many reasons.

I have a few Class Letter replies remaining from last spring which should be noticed. Sumner Hazelwood, I, Hancock Point, Maine, says: "Retired 1941. Clerk Hancock Point Village Improvement Society. In charge of construction of a new wharf and active in other community affairs. Member of town budget committee. Chairman of Trustees of United Baptist Church of Hancock. Husband of the best wife I've ever seen. At present raising money for Red Cross." I have an interesting letter from Robert Bruce of Redlands, Cal. who was a special student. He says in part: "As an undergraduate and graduate student I attended four great educational institutions: Boston University, Harvard, M.I.T. and Stanford. I held degrees from the first two only. I had two of the Tech Faculty for teachers in physics—Professors Cross and Derr. The former, with white hair and beard, lectured to us while Derr handled the laboratory work. It was said that Prof. Cross wouldn't drop a stone in the class room without trying it first to see if it would work. Much to his apparent chagrin, he broke a Crookes tube one day when lecturing to us. As I remember it, I was exposed to one of Prof. Pope's courses in chemistry but my skull was too thick and it didn't take. Prof. Niles of the long white beard was another I met in some science course, in what I don't recall." From Phil Moore (in March) "Mrs.

Moore and I have just returned from a winter holiday in Arizona. The winter was on the cool side but sunny this year. Spring is well on its way here (Maryland). The daffodils are in bloom and the roses sprouting. Arthur Hayden was well when I saw him early in January. He had a great trip on the Ohio and Tennessee Rivers last summer." I had a very pleasant call from Phil in July and we had lunch together.

Winthrop St. Clair, IV, writes as follows: "No doubt each member feels embarrassed to answer the last item on your questionnaire and so do I. The short and simple annals of an architect's life can be but dull reading. When a graduate of Course IV looks over the other members of his class who gather for a 50th Reunion he is likely to feel he chose the wrong profession. In a way we do not choose. We drift into our spheres of life. The merest trifles guide our course until it is impossible to change. At the age of seven I innocently drew a picture of a cow. A fond grandmother believed it an indication of genius and flattered me into further efforts until the snares and fates of fortune landed me into Course IV. Youthful enthusiasm blinded me from side glances at the more lucrative courses of Mining, Chemistry, Electrical and Mechanical Engineering, which produced millionaires, until it was too late to shift; and so I had to be content to build fine houses and office buildings for my fellowmen who had made so much money in those other lines that they sought the services of architects to help spend it. Looking back over many memories, perhaps my life has not been so dull after all. I have many hobbies but can spend only a little time with each. These hobbies are, — first my work which still keeps on. Then there is a piece of palm-shaded jungle on the edge of the Everglades where I watch things grow, a house in Miami and also a cottage hidden in the solitude of the New England hills where I can lounge in front of the stone fireplace and read above it the first paragraph of the 91st Psalm — 'He who dwelleth in the secret place of the Most High shall enjoy the protection of the Almighty.' This is my story briefly told."

Allen McDaniel, IV, of Waterford, Va. has this to say: "While I have made no effort to practice my profession since we moved into the country some 16 years ago, projects involving the remodeling of houses, churches, etc., have come to hand and kept me busy. At present I am supervising the remodeling of an old estate to be used as a home for underprivileged and crippled children near Leesburg, our county seat. For the past 10 years I have served as secretary of the County Zoning Board and am now advising our County Civil Defense Office. I am so sorry to note so many of our classmates who have passed on. One can realize how much they will be missed in the life and activities of the communities in which they lived. And they will be sadly missed at future class reunions."

Willard Dow, our 55th reunion chairman, is still looking for a suitable place. Many of the hotels are engaged and others do not open till later. I hope to have more to report next month. — THEODORE H.

TAFT, Secretary, Box 124, East Jaffrey, N. H. WILLARD W. DOW, Assistant Secretary, 78 Elm St., Cohasset, Mass.

• 1902 •

The Alumni Day luncheon in June brought out Bassett and Mrs. Bassett, Collier and Mrs. Collier, Moore, Patch, Philbrick, and Williams. Though the number was small, it was a very enjoyable affair as we were closely bunched near the head table. After luncheon the group broke up, some to go to the symposium and others such as Moore and myself to bask in the sunshine in DuPont Court. In the evening all but Williams attended the banquet at the Statler to complete a perfect day.

On June 14 Dan and Mrs. Patch celebrated the fiftieth anniversary of their wedding by having a gathering of the family and later in the afternoon and evening holding an "open house" for their friends. Dan's three brothers, all Technicians, James A.'00, Ralph R.'06, and Ernest L.'10 and '16 were able to be present with some members of their families as were his two sons, a daughter-in-law, and five grandchildren. As the Patches have lived all their married life in their native town of Stoneham and have entered deeply into the community life they have many friends. These took advantage of the "open house" to call in and pay their respects and offer congratulations with the result that the afternoon and evening saw their home filled with friends.

Cates has been elected to Honorary Membership in the American Institute of Mining and Metallurgical Engineers. The number of living honorary members is limited to twenty and the present membership is eighteen. Lydia Weld, XIII, attended the June meeting of the American Society of Women Engineers in Los Angeles. She is the only Marine Engineer member. In a letter to Dan Patch, Carlton B. Allen, New Rochelle, N. Y., writes that his family is well but scattered. His son, Brigham, is in Detroit while his daughter lives in Cleveland. He hopes to be present at our reunion. Bert Sherman writes about the first of August from the home of his daughter, Mrs. (Dr.) John R. Earl, in St. Paul, that he has been in the hospital for an operation he hopes will improve his health which has been poor the last two years. It will be of interest to Course VII members that Wilson P. Harris, long carried as "address unknown" on the class records has been located by the Alumni Office through a letter from his son as at Scottsburg, Virginia.

It is with regret that I have to record the death of Charles L. Shedd (1) in Arlington, Mass., on June 19. He was born in Portsmouth, N. H. August 21, 1880 and prepared for the Institute at Portsmouth High School. He started his career as a structural engineer in the employment of Purdy and Henderson, prominent engineers in Boston and continued to practice structural engineering until his retirement due to failing eyesight in 1947. After a few years of employment by several engineering firms in Boston, Shedd branched out as a consultant and served many of the leading architects and engineers of the area. As a consultant he was concerned with buildings and structures

in widely separated cities and states. Shedd left four daughters, Mrs. Anthony Hall, Mrs. (Dr.) Walter H. Hagen, Mrs. Donald T. Shedd, and Mrs. Norman Norton.

Shedd had two hobbies which he followed quite seriously — stamp collecting and mathematics. In his stamp collecting he obtained his stamps, over thirty thousand, through correspondence with people over all the world, and in the last twenty-five years had correspondents in one hundred and eighty countries. He could tell many interesting incidents in this connection. As to mathematics, he wrote in answer to our 1952 questionnaire, "I now play with my primitive triangles and some of my findings have been published in 'Scripta Mathematica' and a hundred page manuscript was sent to Prof. Frank Hitchcock of M.I.T. who had given me much encouragement at the start and I understand that he put it in the library there." — BURTON G. PHILBRICK, Secretary, 18 Ocean Avenue, Salem, Massachusetts.

• 1903 •

This year seems to have taken its toll of the class. Walter F. Whitehead, V, died February 26, in Boston. He attended several reunions of the class in recent years, while still in active business. After leaving the Institute he went into the furniture business, and for many years was president and treasurer of William Levens and Company, a furniture concern near the North Station in Boston. He did a lot to build up that section in the Canal Street and Haymarket Square area. He and Harry Stiles asked each other at the 25th Reunion why they spent their years studying engineering, and then went into the furniture business. He retired several years ago. Horace G. Simpson, IV, died in Berkeley, California, on April 19. He was originally from Chelsea, Mass., and was particularly interested in hockey while at the Institute. About twenty years ago, in response to a letter from the secretaries, he wrote, "Regarding this autobiography business for the class notes, it was just about the usual thing — trying to do a good job, like all the rest of us, at the profession, which in my case is the practice of architecture — and occasionally succeeding in doing so. One time I heard of a fellow who was asked for some of this biography stuff and he wrote, 'I grew up, I wear suspenders instead of a belt, and that's about all,' and it strikes me that that is a pretty good model for that kind of business. In addition to architecture I have been president of a manufacturing business for the last ten years and director in another one, which gave me a chance to get a lot of exercise in a Pullman car. So I weigh more than when I played on the hockey team but not enough (as yet), to disgrace the family. Regarding this offspring business — that is a lot easier to answer, being a plain statement of fact and not requiring any subjective estimate of personal eminence. There are two of them; Roger G., M.D., Stanford'29, and Magill'34; Helen B., Wellesley'31 (and one dorg)'24. As yet there are none of the third generation but I would be glad to find out the ones that have 'em." We wish

we knew what changes came to him in the last twenty years.

Findley Burns, XIII, died in Baltimore, Maryland, on April 19. We have very little information about Burns. His name does not appear in *Technique* for our class, nor does he seem to have been with us in our senior year. During the First World War, he was a Captain attached to the General Staff, in 1918. We hope some other member of Course XIII may supply further information. George D. Wilson, I, died in Hollis, New York, on April 27. He came to us from Clarksville, Tennessee, and took an active part in the musical clubs, athletics, and was associate editor of *Technique*. During the First World War, he was captain of engineers, and was at Camps Humphrey in Virginia, Shelby in Mississippi, and Travis in Texas. We have no record of his attending any reunions of the class. We wish some other athletic members of the class would supply further information as to his later life and activities. Possibly Morse, Hewitt Crosby, or Gib Gleason may be able to help. The secretaries will be grateful.

Joseph W. Aylesworth, II, died in Edgewood, Rhode Island, on July 31, after a short illness with a severe heart condition. His home was in Newport, R. I. After leaving the Institute, he was on construction work for the U. S. Eng. Corps in Queenstown, Ireland, and at Muscles Shoals, and in Sharon, Pennsylvania. Following our 50th reunion, he wrote to us thanking us for telling him about the reunion, on July 2, 1953, as follows: "It was pleasing to learn that you all had such a good time, and that everything went along so nicely. I was glad to learn that so many Course II men showed up. It seemed like a roll call of the old crowd. It most strongly brought to mind the days we spent together in the drafting room. It makes me feel very sorry that I couldn't be with you." Too bad he couldn't have been with us.

The Alumni Day luncheon was attended by Arthur Allen and wife, Mrs. Fred Eustis, Gould, Carleton Green, Nolan, Sears, Cushman, and wife. We sat together as near as possible, at one long table, with other 50 year and older classes. Welsh had written that he also expected to attend, but did not appear. Fred Eustis was recovering from an illness, but was expected to be released from a hospital the next day. Our best wishes were sent to him from the group by Mrs. Eustis. A letter from William C. Lounsbury tells of his wife's class at University of Wisconsin, celebrating its 50th Reunion, and he adds, "Our life work has pretty much gone into live-stock, consisting at latest checkup of two daughters, three sons, and 13½ grandchildren. We have had a most fortunate and satisfactory life, and now live in this beautiful Florida town (Ft. Myers), except for a month or two visiting the families and loafing at our cabin on a lake in Northern Wisconsin. Please remember me to any of the disciples of Arlo Bates or Charlie Cross and Co., who may remember me." Alex Healy, III, wrote in May that his wife was helpless with hardening of the arteries, in a Salt Lake City, Utah, hospi-

tal. Our sympathy to them both. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, Box 103, South Wellfleet, Mass.

• 1904 •

Today is the day when notes for inclusion in the November issue of the *Review* are due and as usual I am not going to be on time but probably a day late. I have no excuse save a case of ingrowing procrastination. I hope you have all been able to find something enjoyable in the past summer but must say that I have not, as the heat has been very oppressive in my vicinity and most of New England was nearly washed away in August by a rain storm which must have rivalled the one which Noah rode out in the "Ark."

As must be expected, the class of 1904 did not participate very heavily in the events of Alumni Day. Harry Kendall came down from Gardner and went to all the events and his accompanying letter gives the names of the others present. He mentioned Gus' party which was given by Gus Munster at the University Club at 5:00 P.M. on Alumni Day and was much enjoyed by all who attended. The menu was well chosen. Harry has known me long enough to know my middle name is Warren and not Wardsworth, and Fellows' initials are O. D. for Otis Dwight which is where Harry got the nickname of "Odd" Fellows (I guess he did). While O. D. Fellows is in the limelight here, let me say that he has suffered from sciatica considerably all summer but is now improving. "Dear Henry: I meant to give you a list of the ones attending the various functions last Monday. Here they are: Alumni Luncheon: Mr. and Mrs. Carl Hayward, Mr. and Mrs. Currier Lang, Mr. and Mrs. Everett Hiller, Fred W. Farrell, Arthur D. Smith, and Harry S. Kendall; Alumni Banquet: Currier Lang, Everett Hiller, Harry S. Kendall; Gus' Party: Gus, 'Tammy' Rockwood, Henry Wadsworth Stevens, Ed Parker, Walter Carty, 'Odd' Fellows, Gene Russell, Dan Comstock, Harry Groves, Everett Hiller, Harry Kendall. Sincerely, Harry."

"Gene" Russell, our "genial" treasurer, was obliged to have a serious operation in the late summer but is recovering well and is able to go to Boston.

I am sure you will all be sorry to learn that Charlie Homer died on July 10, 1955, as related in this clipping from the *Quincy Patriot Ledger* of July 11, 1955. "Charles L. Homer, 73, formerly of Quincy, died yesterday at his summer home at Prout's Neck, Me. He was a resident of Scarborough, Me., since his second marriage several years ago. Besides his wife, Mrs. Doris Homer, he leaves a daughter, two stepdaughters, and three grandsons.

"Mr. Homer formerly lived on President's Lane in Quincy for about 40 years. He was active in several organizations here, including the Boy Scouts, and was a member of the First Parish Church. He was the nephew of Winslow Homer, the marine artist." Charlie was one of our best known and best loved classmates and during undergraduate days was tremendously prominent athletically and socially.

He was class president in our freshman year and was once voted the "most popular man in the class." He had not been in good health for some time and his health condition prevented his attending our 50th anniversary reunion last year, much to his disappointment as we all would have been very glad to have seen him there.

On June 7, 1955, George Ainsworth passed away, and on April 15, 1955, Prof. Grace E. Davis passed on at 8 Norfolk Terrace, Wellesley, Mass.

On Aug. 8, 1955, I had a letter from Elbert A. Allen, the secretary of 1900, giving me some details regarding the death of L. Arthur Wallon in Seattle, Washington, on July 9, 1955. I knew Arthur Wallon in undergraduate days and we were both in Course VI and many times together in the same section. Until now I have not known about him, but am glad indeed to share Mr. Allen's letter with you all and hope that some of you also knew Wallon intimately. "I have notified the M.I.T. Alumni Office of the death of my brother-in-law, L. Arthur Wallon, who was a member of the class of 1904. I shall try to give you in this letter some facts of his life which you may wish to incorporate in the Class Notes of the Review. L. Arthur Wallon died suddenly in Seattle, Washington, July 9, 1955. He attended M.I.T. with the class of 1904, Course VI. In the fall of 1904 he went to Seattle and entered the employ of the Seattle Electric Company, which, at that time, was an operating company doing practically all of the electric light, power and street-railway business of the City of Seattle. He was in the department of electrical engineering until his retirement in 1948. His wife, Mary, two children, and four grandchildren survive him."

Under date of Jan. 16, 1955, Leon H. Smith wrote to advise us of the death of our classmate Alfred H. Jacobs, and I give you here his letter. "Possibly you have not heard of the death of our classmate, Alfred H. Jacobs, at San Francisco, Calif., on Dec. 14, 1954, after only a few days' illness, although a heart condition had caused him to give up active life some time ago. He had had a successful career as an architect and after he retired he continued his hobby of photography, as well as sketching, besides doing a great deal of serious reading. He is survived by his wife and a daughter."

Sometime ago I had a letter from George A. Curtis, giving some information which he thinks may refer to our classmate "General" Holcombe. so I send it along to you. I have not written the "General" about this, but presume I may hear something from him. "In reading a library book — 'Yankee Folk,' by Edwin V. Mitchell, I came across a familiar name — Amasa Holcombe. I think it must be about the great (once) grandfather of that nice looking young man seated in the foreground of our 50th reunion picture. I was sorry that circumstances prevented me from playing golf with the latter last June as I believe that I could have taken at least as many strokes as he used.

"The G. G. was born in 1787 and became a famous telescope maker. Introduction of his telescope is said to have

marked an era in astronomical science on this side of the Atlantic.' He also made cameras. No wonder his grandson became a star!" While the general is in my mind, let me say that we received from Mr. and Mrs. Amasa Maynard Holcombe the announcement of the marriage of their daughter Priscilla, on June 30, 1955 to Mr. Pierson McGuinis Hall, in Washington, D. C. And while we are on the subject of wedding announcements, sometime in August we received an announcement of the marriage of Miss Loretta Grace Carroll to Mr. August W. Munster on July 25, 1955, in Winchester, Mass. And so wedding congratulations are in order in two places!!

The following clipping from the *Cape Cod Standard Times* of Jan. 28, 1955, gives us some news about our classmate, Herb Kalmus, which is quite interesting. "A print of the first three-color live action motion picture made by Technicolor was presented to the Motion Picture Academy of Arts and Sciences by Dr. Herbert T. Kalmus of Centerville, Mass., president and general manager of Technicolor Motion Picture Corporation. The film, a two reel feature called 'La Cucaracha,' was the first live action three-color print to come from Technicolor (although a Walt Disney three-color cartoon made by Technicolor preceded it) and it brought human figures in full color to the public for the first time.

"Dr. Kalmus presented the print of 'La Cucaracha' to Charles Brackett, president of the academy, in a ceremony in the academy library." Like Mr. Brackett, who received the film, I remember seeing "La Cucaracha" when it came out and marvelled at the lovely colors produced.

Honors keep coming to the members of the class of 1904 and another is indicated in the following sent me by the recipient, Dr. Robert B. Sosman. In addition to being an authority on ceramics, Bob is also a well known authority on the eating places of New York. "Dr. Robert B. Sosman, Course VIII, '04, was made an Honorary Member of the British Ceramic Society at a luncheon held in his honor at Harrogate, England, May 27, 1955. He presented a paper on 'Old and New Phases of Silica' at a meeting of the Refractory Materials section of the Society. He received the 'Award of Merit' of the American Society for Testing Materials in recognition of his work as Chairman of the Society's Committee C-8 on Refractories."

On September 9 and 10 the Alumni Association conducted an "Alumni Officers Conference" made up of Class and Club officers. There were around 350 present and 1904 was represented by Gus Bouscaren, our class agent, and your secretary. The meetings and the speeches were very interesting, the meals were wonderful and we were all able to get a much better picture of the Institute and the way it functions than ever before. The buildings are truly marvelous, and were interesting to us Alumni of the Boylston St. and Copley Sq. era. I was glad indeed to see Bouscaren again, and we had many fine chats, so now I enclose herein a letter from him telling something about himself, and also I include the letter from Boggs

which Bouscaren mentions in his letter. I think they are both interesting documents and worth sharing with you all.

"Dear Steve, this letter from Bill Boggs merits a place in the archives. I trust he won't sue me for making it public. He modestly states that his part in the 100 million dollar copper smelter project is only 10 million. That Course III produced some giants back 50 years ago. Wish I had taken it instead of Course IV. Since retiring from Stone and Webster — laborer to V.P. in 50 years, I have set myself up in the business of making engineering and business reports and am enjoying my new activities greatly. Am also associated with several small enterprises around Chicago which helps me keep busy as I want to be. The Lord is good to me way beyond my merits. Gus." Now from Boggs. "Many thanks for your letter of May 23. Several years ago I promised to design, oversee the erection of and put into operation a copper smelter for the San Manuel Copper Corporation about 50 miles northwest of Tucson. The design is completed as well as most of the erection and in the fall, if the mine is ready, we will start up the plant. Including the railroad, the whole project will cost well over 100 million dollars, but my part is only 10 million. They will mine 32,000 tons of ore per day, concentrating it to 750 tons copper concentrates per day and then smelt it into 220 tons of copper per day."

Well, so long now, I hope you all had a pleasant summer with some relaxed moments filled in somewhere. — HENRY W. STEVENS, *Secretary*, 1082 Commonwealth Ave., Boston, Mass.

• 1905 •

Those members of the Class of 1905 who attended our 50th reunion, beginning Friday, June 10, and ending Monday, June 13, already know how successful it was and what a wonderful time we had. It was truly one of the high spots of our lives which we will often recall with pleasure and never forget. It is hoped that this account of it will help to re-live it.

For the benefit of those classmates who, because of ill health or distance, could not attend we will try to paint a word picture of what happened. For pictures of the usual kind we will have to refer you frequently to *Technology Review* of July 1955. That number is full of fine pictures which illustrate almost every paragraph of this story. Some of you will have that number and others will not. I have telephoned the *Review* and been advised that they have not enough copies of the July number to send to everyone in our class.

I was told, however, that beginning with the November 1955 number, in which these words will appear under Class Notes, the *Technology Review* will be sent to every '05 graduate. That will be in accordance with the present practice of mailing each number to every graduate of all older classes beginning with the 50th of age. As to non-graduates the policy has not yet been decided upon but the probability is that non-graduates will not receive them unless they are subscribers. In other words if you received

an M.I.T. degree you will receive *Reviews* beginning with the November 1955 number and from then on. That means that all '05 graduates will get the class notes. Please help make these class notes interesting to your classmates by sending in notes about yourself.

Our Secretary, who pinned on me the title of Assistant Secretary to get a little deserved help in his untiring efforts for the class, has put it up to me to write up this story. Fortunately my wife, Elizabeth, took much interest in helping by taking notes at the class meeting. We will do our best for Fred. Don't forget that a lot of work was done by Goldy in preparation for this reunion at a time when he was busiest. He seemed to think of everything and made innumerable arrangements to ensure its success. An advisory committee consisting of Babcock, Buff, Marcy, McLean, Lewis, Stevenson and Shapira cooperated.

Now, to get on with our story. The first number on the reunion program was the Graduation in Rockwell Cage on Friday morning, June 10. It was a perfect day, ideal for the occasion. Have you ever attended any meeting in Rockwell Cage? Imagine a big square building with a high roof and dirt floor, much used, I believe, by undergraduates for athletic events. The Cage is located on the west side of Massachusetts Avenue in the rear of the Armory.

Upon inquiry I located '05 over in the corner. Then and there our reunion began. How good it was to see old classmates from far and near! Frankly, it took an instant or two to recognize some of them not seen for years, mainly because, being rigged up in caps and gowns, they looked different, and, it must be admitted, we had all grown older. It was evident that we are now old timers.

Later when seated on the stage I counted thirty-five in our group. I wish I could give all their names but at the time I failed to note them. Many I would remember now but some would certainly be omitted, which would not be fair. However you received, no doubt, the list Fred sent just prior to the reunion of those who expected to attend. Naturally there were few who took in everything but almost all of the names on the mimeographed list were present at some of the events.

Over in the corner I spotted Fred, busy as usual, seeing that everyone was getting the cap and gown intended for him which the Institute had provided in just the right size. Evidently some costumer had the job of furnishing them. It was flattering that the gowns had red linings which made us feel very academic.

To the music of the organ in the new Kresge Chapel nearby, the procession formed for the short march into Rockwell Cage. Our group was marshalled by our classmate, Irving Henry Cowdrey, now Professor Emeritus. As we went up the aisle we could see that the Cage was filled to overflowing with 4500 parents, wives and sweethearts of members of the graduating class, wives of Alumni and instructors all in gay summer dresses. We turned left and were conducted to the right hand side of the large platform into three rows of seats at the front, a real place of honor.

Being near the speakers we could hear every word spoken and see everything at close range.

The address was by the Right Honorable Sir Roger Makins, K.C.B., K.C.M.G., the British Ambassador to the United States. He was good. His address, "The March of Mind," is printed in the July issue of *The Technology Review*. It was apparent that his country has an able representative.

Then came the presentation of degrees which took a long time. The graduates, whose seats were in the front rows with the audience, came forward in a single line in the order of their courses, of which there are now thirty. They stepped briskly up to the rostrum and each one, in quick succession, was handed his diploma by President Killian with a friendly smile and sometimes a confidential pat on the back. There were hundreds of graduates; 967 degrees were awarded. Of course most were from all parts of the U. S. but it was impressive that many were from foreign countries too numerous to list.

All kinds of degrees were awarded, 52 Doctors of Science, 67 Doctors of Philosophy, and hundreds of Masters of Science and Bachelors of Science. Various honors and many fellowships were awarded, also prizes and awards.

A great many graduates were in uniform of Army Corps of Engineers, Signal Corps, Ordnance Corps, Security Agency, Quartermaster Corps, Air Force and Navy.

The general impression was how big Tech has grown compared with what it was when we graduated.

Following the graduation exercises Elizabeth and I proceeded to DuPont Court where members of '05 had the honor of being the guests of President Killian for luncheon. It was a very pleasant and friendly party. President Killian spoke informally and was very kind in his many references to members of our class which naturally pleased us all.

He mentioned that our class opposed the merger with Harvard at a time when M.I.T. finances were in a precarious condition. Singled out for mention were a number of members of the Class of 1905 who had made contributions of note since they graduated a half century back. He spoke of Professor Emeritus "Doc" Lewis, who is now teaching in Rome, Italy; Joe Daniels in Lahore, Pakistan at Punjab College of Engineering and Technology; J. E. Barlow, first city manager; Leonard Cronkrite, President of Atomic Instrument Co., Cambridge, Mass., and Prof. Irving H. Cowdrey. 1905 had many company presidents. Henry Keith was mentioned, also Lovejoy of Lowell, and Hub Kenway.

On page 486 of the July *Review* is a picture of the head table. '05 was ably represented there by Frank Chesterman and Mrs. Chesterman. Frank made an excellent speech. We were most proud of him.

Another impressive speaker was a young man who had just graduated. For poise, confidence and evident ability he was outstanding. His name was Eldon Reiley '55. No doubt he will be heard from.

Following the luncheon, President and

Mrs. Killian and others greeted their guests in a reception line in the Great Court.

The next thing was to get down to the Belmont Hotel at West Harwich on Cape Cod. Elizabeth and I had the pleasure of providing transportation for Jack Flynn and Mrs. Flynn who had come all the way from Buenos Aires, Argentina. They were great fun. After picking up a nail and getting a flat fixed we finally got started from the Statler and had a most pleasant ride. Among other witty things, Jack said, "You know, I'm Irish but, confidentially, I hate to mention it, it seems so much like boasting." He is President of two factories in Argentina, one making steel barrels—and another ceramics. After graduating he was Mechanical Engineer for the Panama Canal for several years (as was the writer in 1919–1923) so we had many interests in common. We arrived just in time to get under the wire for dinner. Everyone else had arrived earlier, beginning in the afternoon. Bert and Alice Files, early arrivals, saw that some introductions were needed and rose to the occasion as welcoming committee. By dinner time a considerable number had arrived, registered and got settled.

The Belmont, "Cape Cod's Most Renowned Hotel," proved to be a most pleasant and satisfactory place for our reunion. The meals were excellent, rooms pleasant, people most courteous and everything very nice. There was an expansive private beach and a gorgeous unobstructed view of the ocean. Some were a little cold at night. Nobody improved the opportunity for beach bathing because on Saturday the weather was damp and foggy, off and on. Nobody cared because within the hotel it was cozy with fires in two fireplaces and plenty of comfortable chairs in the big living room.

All entered into the spirit of the occasion when Davy Crockett hats were passed out by the Committee on Arrangements. Perhaps you, reader, will catch some of that spirit when you read their names. Committee on Arrangements: Fred W. Goldthwait, General Chairman, Percy A. Goodale, Assistant Chairman, John Ayer, Hub Kenway, Grove Marcy, Ed Barrier, Bob McLean, Al Prescott, Bert Files, Bill Ball. Ladies Welcoming and Program Committee: Ruth Goldthwait, Grace Hadley, Andrea Lovejoy, Helen Turner. Information Please: Roy Lovejoy, Peg Ball. Golf and other Sports: Bill Ball, Percy Goodale, Ralph Hadley. Reporters and Press: Gilbert and Elizabeth Tower. Boat Ride, if any: Bill Ball. Photography: Ed Barrier. Transportation: Henry Buff. Badges: Bert Files. Contract Bridge, etc.: Mrs. Al Prescott. Fifty Year Gift Committee: Bob McLean, Chairman, Grove Marcy, Fred Goldthwait, ex off.

Saturday was our big day for sociability, reminiscing, renewing acquaintances and catching up. It was gratifying that many classmates came for the day. A total of one hundred and eleven was counted. Many had pictures of children and families to show with pride. A cable was received from John Damon who is in Korea "Will be with you in spirit." Hadley and Kenway had a tennis match which I believe Hadley won. A few enthusiasts

got in some golf. Many took auto trips to Hyannis and other towns on the Cape. The luncheon planned in the Beach Pavilion did not come off. The weather was unsuitable. Goldy had some letters thoughtfully prepared addressed to class members who could not be present due to illness or distance. They were passed around and signed by as many as possible. It is hoped these messages of good cheer gave pleasure to their recipients. After a while bridge and canasta games flourished.

Waldso "Casey" Turner was full of stories and jokes as usual. You will remember he originally hailed from Dallas, Texas.

As usual there were so many fellows to talk to and compare notes with that it was disappointing to be unable to enjoy a really good talk with everyone, but we accomplished a lot of getting reacquainted. That, of course, was the main objective of our 50th reunion. We are not so numerous now and every year these classmate friendships are more important. We all have other friends but who among them are of such long standing as our Tech classmates?

During the day a class picture was taken on the lawn in front of the hotel. It came out very well. Finished prints were at hand before we left. I have counted 56 men and 38 ladies, total 94, not including a young couple and Dean Klahr's grandson.

Saturday evening we had our class meeting. The side room was not quite big enough but it was a jolly affair. Everything had been well planned. In the election of officers, Hub Kenway was elected President, John Ayer, Vice President, Fred Goldthwait, Secretary and Treasurer, Gilbert S. Tower, Assistant Secretary. Kenway made an amusing speech. Too bad I can't quote it to brighten up this account. Class dues of \$5.00 were voted. The Secretary was thanked for his good work and in appreciation thereof he and Ruth were presented with a gift which was a set of luggage for the trip they are planning to Germany next spring to visit their youngest daughter. The gift was gracefully acknowledged.

Necessary class business having been disposed of, competitions were next in order. For the man who has best retained his pristine beauty there were four nominations—Kenway, W. F. Harrington, Waldso Turner and Henry Buff. (Tower was mentioned but being the youngest in the class, did not run.) Willard Simpson was highest weight—203 lbs. The prize for coming the longest distance went to Jack Flynn.

For the most grandchildren the prize had to be shared by Bill Spalding, John Taylor and Wallace MacBriar, who each have ten. The Towers with nine were disappointed but we may not be through yet.

Some very nice souvenirs were distributed. One was a little three minute hourglass cast in a three inch square plastic block for the telephone table. Frank Elliott's company in St. Louis had them especially made and they were beautiful, like cut glass and nicely lettered in gold. Another, compliments of Frank Elliott, was a little yellow plastic tag and chain.

Next, pictures were shown on the screen, of previous reunions at Oyster Harbor in 1930 and at Old Lyme in 1935 and 1940. It was good to see and remember old faces we will never meet again in life. Last but not least, Gene Kriegsmann, who had brought his projector, showed some very remarkable pictures he had taken in London of the Coronation. They were greatly enjoyed. He took them under difficulties in the rain and sometimes behind a woman's hat but they were good.

Sunday morning was rather stormy at first. Rain clouds and mist blew in from over the ocean and few were tempted outdoors. However there was plenty to do inside, that is plenty of sitting around and talking after a delicious breakfast in the pleasant dining room. Probably we all ate too much but it was hard to resist the delicious dishes placed before us.

Soon the clouds broke away and the sun came out for another perfect day. Some took rides, others played cards or strolled around the hotel grounds which were beautifully planted. In brief, everyone did as he or she felt individually inclined. By noon the bunch had thinned considerably compared with the day before. Dinner was served and then we were off for home or hotels in Boston, filled with satisfaction with our stay at the Belmont and the success of our 50th reunion.

At 12:30 came the Alumni Luncheon in DuPont Court. Members of '05 and their wives sat at tables immediately in front of the speakers. It was a most delightful occasion. President Killian's report to the Alumni, entitled, "The Technology of Peace," is printed in the July Review on page 476. His address emphasized the sharing of peaceful objectives. President Killian is a very lovable man. Tech is fortunate in having such a popular and able President. All the speeches he had to make he carried off with ease and seemed to enjoy his many duties.

To catch the spirit of this occasion I wish you could all see the pictures in the July Review showing the head table (page 488) and members of 1905 at their two tables directly in front of the speakers.

At the right of the head table is seated our Secretary, feeling relieved, I hope, that his untiring efforts to make our reunion a success had turned out so well. Next to him but one was Her Royal Highness, Princess Ileana of Romania, whose son Stefan Habsburg (as in the telephone directory) or (S. Habsburglothringer according to the Register) had received his degree on Friday. Perhaps you may have read Princess Ileana's book. If not, it is recommended. She is a very interesting and lovely person. The other end of the head table was graced by our own Ruth Goldthwait and she looked very charming.

Following the luncheon President and Mrs. Killian again received in the Great Court. Some of us improved the opportunity to meet Princess Ileana, who seemed pleased with the attentions paid her.

In the meantime photographers were busily circulating around as they had been during the luncheon. They wanted an '05

picture. So Grove Marcy and several others hastily formed a group and an excellent picture was taken which came out later in the newspapers.

Monday evening was the Annual Alumni Banquet at Hotel Statler, also the Annual Ladies Banquet. Princess Ileana spoke to the ladies and her talk, in brief, is in the July Review. Several of our ladies attended.

At our men's banquet we had two whole round tables way up front close to the stage plus additional seats with other old timers close by. I counted 25 and here are their names: C. W. Babcock, A. T. Balkam, L. W. Cronkhite, J. H. Flynn, George Fuller, H. T. Gammons, F. W. Goldthwait, W. F. Harrington, M. E. Helpern, G. B. Joslin, E. F. Kriegsmann, B. E. Lindsley, I. J. Nye, F. P. Poole, D. P. Pousland, C. R. Shaw, W. E. Simpson, C. E. Smart, H. J. Stevenson, J. W. Taylor, G. S. Tower, W. Turner and Bob McLean. A picture of one of the tables is on page 492 of the July Review and of the head table on page 490.

The speaker was Dr. Arthur S. Fleming, Director of the Office of Defense Mobilization in Washington, a man who has a very important job and who is doing it in a very capable manner. His subject was, "Is War Inevitable?" See July Review, page 483.

For us the high point of the occasion was the presentation of the Class Gift to the Alumni Fund by our own Bob McLean. He had a place of honor on the platform among the notables, all in white tuxedos. The Review on page 493 shows a picture of Bob handing the gift to President Killian. His speech of presentation was brief and to the point. The amount was \$161,215, which was accepted "graciously." It seems that '05 did pretty well after all, comparatively, in respect to the amount of the gift. We can credit that to a lot of work put in by Bob.

And so our long looked forward to 50th reunion came to a close. How many of us will live to attend our 55th? That is something we don't like to contemplate but have to face. We missed many of our former classmates, some of them very dear, but they were remembered. The Alumni Register lists 324 of our class living and 284 deceased out of a total of 508 graduates and non-graduates. At any rate we will look forward with confidence to our 55th. To you who read this, thanks for your patience and forgive any errors or omissions. Thanks to Bert and Alice Files for checking it with me. — GILBERT S. TOWER, Assistant Secretary, 35 N. Main Street, Cohasset, Mass.

• 1906 •

Alumni Day on June 13 seemed to have special significance this year as the classmates present thought of our 50-year celebration which was twelve months away. To get an idea of the part played by the 50-year Class, Ned Rowe obtained tickets to the graduation exercises, giving the Secretary and Ned an opportunity to see what would be expected of us on June 8, 1956. Space will not permit going into all the details but it is suggested to those who have not already done so that they read the account of '05's participation in the

affair in the July Review or the '05 notes in this issue and thereby get an excellent idea of what is ahead of us. With respect to the 1906 attendance on June 13, it must be admitted that it was probably the smallest for a number of years. It is hoped that we will go to the other extreme in June '56. Six classmates were present at the luncheon: Bill Abbott, Tom Hinckley, Charlie Kasson and Harry Lewenberg. Mrs. Hinckley was accompanied by her husband; thus, including the two secretaries, the total attendance was seven. Four classmates attended the Alumni banquet in the evening, viz., Bill Abbott, Abe Sherman and your two secretaries. Vice President Sherman Chase would surely have been present, had he not been on a combined business and pleasure trip in Europe.

Thanks are due to Ralph Patch for the following letter which Ralph wrote me on August 15: "In the 1906 notes of a recent Review was a note that Harold K. Merrow had transferred his legal residence from Boston to Boothbay, Maine, where he had been a summer resident for forty-five years. Late in July, while I was visiting in the Boothbay region, I called on Harold and his wife. I found them pleasantly situated on the shore of Sawyer's Island in a two hundred year old house, which has been well adapted for comfortable living. Both are civic minded and enter into local community life. Soon after his residence was changed, Harold was made a trustee representing Boothbay for the construction of a district high school, to serve the various villages of Boothbay, Boothbay Harbor and East Boothbay. This school is now under construction and Harold is very busy carrying out the supervisory duties delegated to him."

The Secretary has received a postcard from Percy Tillson dated Vienna, July 22: "This summer we are seeing some of Europe (one advantage of retirement) but next summer it will be *Boston and '06*. Was in the Russian Zone this morning and saw some of our Russian military friends (?) but we seemed to pay little attention to each other. You and Chase are doing a good job for 1956 so keep it up and get a big round-up." Thanks for the kind words, Percy, which are reproduced here not so much because they compliment two class officers but to demonstrate that one classmate is thinking along the lines of a big group for our fiftieth.

We have received an air-mail letter dated June 9 from another foreign traveler, Chester Hoefer, who was in London at the time with Mrs. Hoefer. This read as follows: "I am sorry not to be with the '06ers' on Monday but we flew to London to spend the summer in the British Isles. Had a great thrill yesterday when we went out to Earl's Court to the Annual Royal Tournament of the Armed Forces. I was thrilled at the speed with which the Commandos scaled a 60-foot wall, captured a radio tower and then escaped in their landing crafts. Then there were intricate maneuvers on foot and on horseback with a finale with a two hundred piece massed band playing the National Anthem and thousands upon thousands standing while the Queen and the Duke acknowledged the tribute. It was a thrill-

ing sight. Give my best to our classmates."

The *Sunday Sun*, of Lowell, Mass. for May 27 included a picture and write-up about three professors who were retiring this year from the Lowell Technological Institute, one of these being our classmate, Herbert J. Ball, II, Herbert, who has been chairman of the division of engineering at the Institute since 1953, joined the faculty in 1906 as an instructor and was made head of the textile engineering department in 1918. He obtained degrees from M.I.T. and Northeastern University and is a fellow of the British Textile Institute. Prof. Ball is also a past president of the American Society for Testing Materials.

Forbes Magazine of May 1 contained an article "A Long, Long Road" with a sub-title paragraph reading as follows: "Alarmed by the recent activity of 'atomic' stocks, Combustion Engineering's Chairman Joe Santry tried hard to spread a little restraining pessimism. But he too is beginning to tool up for Combustion's atomic future." The article was prompted by the fact that GE had announced they would put up a factory "to design and build complete nuclear power plants up to the turbine." As a result of this announcement their common stock had gone up to \$79.50, a 21 per cent rise in five trading days. Quoting further from *Forbes*, classmates will be interested in the following: "All this was most distressing to Combustion Engineering's Chairman Joseph Vincent Santry, who has spent 40 years in the traditionally blow-hot-blow-cold boiler business. 'I keep telling everybody,' he complained last month, 'that Combustion Engineering is not going to make any money from nuclear power plants for the next 10 years anyway. About all we do know now is that it's possible to generate steam for utility use by means of nuclear power. But whether or not it's feasible from an economic standpoint is another matter. Meanwhile, we're going to have to spend a lot of money just to find out. I keep telling them that, but it doesn't seem to do any good.'"

Quoting again from *Forbes*: "Although he probably knows as much about the boiler business as any man alive, Joe Santry knew next to nothing about it the day he graduated from M.I.T. back in 1906. 'I had never done a day's work in my life,' he says, 'In fact, I spent the whole summer sailing.' Starting as a night-shift turbine tester for the Boston Elevated Railway ('at \$12.00 for a seven-day week'), Santry had his own turbine sales business by the time he was 26. In 1924 Santry was called in as president of Combustion Engineering, which was just then getting into the manufacture of boilers in a big way. Four years later he quit, only to return in 1930 when Combustion Engineering went into receivership. Superheater Co., with which Combustion Engineering eventually merged in 1948, put up the money to keep Combustion going, and also kept Santry on as executive vice-president. In 1940 Santry was again elected president. By the time he moved up to chairman in 1953, he had boosted Combustion Engineering's sales from \$98 million to \$171 million in just five years."

By the time you read these notes our 50-year reunion will be just 7 months away; also by this time you should have received

the first notice of the plans for the reunion including the outing at Snow Inn, in Harwichport. It is unnecessary to repeat those plans here but it is urged that every reader make a most serious attempt to attend this reunion. There should be many present who have attended no previous reunions. Those who have been at previous reunions have always gone away with the feeling that the occasion was well worth any sacrifice involved. This should be our biggest reunion of all and we should have at least 75 to 100 people attending our outing at Snow Inn, counting our classmates and their guests. Let us start now and make your plans to be with us next June.

A letter was received from Sid Carr last May which was not published in the July Review, so this is the first opportunity to include it in the Notes. Sid wrote that he had now retired and was living in Menlo Park, California. He left Hawaii in 1946, toured the East in 1946-7, then settled in California. He reports six grandchildren and concludes his note as follows: "Through the Class Notes give my Aloha to Cy Young, Abe Sherman, Stewart Coey, and others of Course VI, whom I hope to see in June of 1956."

On September 9 and 10 the First Alumni Officers' Conference was held at the Institute. We assume that a report of the Conference will be included in this issue of the Review. It is recommended that you refer to the report for the proceedings of this very successful meeting. The class of 1906 was represented by four members, Honorary Secretaries Stewart Coey of Glen Ridge, New Jersey and Richard V. McKay of Dubuque, Iowa, also the Class Secretary and Assistant Secretary. This was the largest delegation of any of the classes having been out more than 40 years. The Conference offered an opportunity to learn about the Technology of 1955, and to those who have not yet decided to attend our Fiftieth, a strong factor in that decision would be the opportunity to see the new Technology which is a far cry from the institution from which we graduated.

The Secretary regrets to report the death of Edgar M. Berliner II who passed away at Beverly Hills, California on July 2 of this year. Berliner was the son of Emile Berliner who was born in Germany but came to this country in 1870 and developed a number of inventions including a telephone transmitter and the use of disc records for the phonograph. Edgar started in business in Canada early in 1907 with the Berliner Gramophone Company in Montreal. This company manufactured and distributed Victor records and Victrolas all over Canada. He was with this concern until June, 1936. In October, 1936 he was located in London, England, and in June, 1939 he was in Los Angeles, California but in November of that year moved to Beverly Hills, where he resided at the time of his death. — JAMES W. KIDDER, Secretary, 215 Crosby Street, Arlington, 74, Mass. EDWARD B. ROWE, Assistant Secretary, 11 Cushing Road, Wellesley Hills, 82, Mass.

• 1907 •

Although the weather on Cape Cod in Massachusetts on last June 10, 11, and 12 was not quite as beautiful as has existed

on several previous week-ends when we have held class reunions in that delightful section of the United States, it was not unpleasant enough to materially change group or individual programs during our completely successful 48-year reunion held at Oyster Harbors Club at Osterville. This was our seventh consecutive reunion at this beautiful location. The spacious and finely decorated and equipped rooms and porches of the club house, the surrounding lovely combination of country and seashore, the adjacent championship golf course, the unexcelled cuisine and dining service, combine to provide physical attractions which make this place ideal for our reunions.

Physical assets of a location do not of themselves make a successful reunion, however. The fellowship of men who are bound together by ties of acquaintance and friendship that have existed for many years is the essence of any such gathering, and the joy of such fellowship was evident throughout the entire week-end last June. A total of 32 men were present for at least a part of the time: Cecil Baker, John Bradley, Kenneth Chipman, Bill Coffin, George Crane, Allan Cullimore, Paul Cummings, Fred Dempwolf, "Chick" Eaton, John Frank, Jim Garratt, "Tom" Gould, George Griffin, Hud Hastings, Herbert Hosmer, Roy Lindsay, Milton McGregor, Hermann Mahr, Henry Martin, Sam Marx, Howard McChesney, Harry Moody, Bryant Nichols, Bill Otis, Maurice Pease, Bob Rand, Don Robbins, Merton Sage, "Molly" Scharff (M.I.T., '09, a guest of Sam Marx), Gilbert Small, Oscar Starkweather, and Phil Walker.

The afternoon and evening of Friday, our first reunion day, were spent by most of the men in lively conversation in an interchange of experiences. Some of the fellows had not seen each other for many years, and the cordiality of greetings was unmistakable. A few golf enthusiasts spent the afternoon at that pastime, and on Saturday they were joined by a few others. Many of us on Saturday took advantage of the opportunity provided by the reunion committee for morning and afternoon trips along the shore in a commodious and sea-worthy power boat. Pretty choppy conditions existed on the water outside of the harbor, but all of the men proved to be good sailors! At 6 P.M. a group picture of our men was taken by a professional photographer, who, as usual, did an excellent job.

On Saturday evening, after dinner, our class meeting was held, with your secretary presiding, as Alexander Macomber, our class president, was unable to attend the reunion on account of his health. Telegrams of greetings to the class from Frank MacGregor from Juneau, Alaska, where he and his wife were on a vacation, and from Louis Freedman from New York, who was suffering from arthritis, were read. A letter which had been prepared in advance by your secretary, addressed to Macomber, stating that we missed him and extending our affectionate regards and best wishes, was signed by the 28 men who attended this class meeting. The receipt of this was acknowledged by Mac with gratitude and appreciation under date of June 17. Plans for our 50-year reunion were discussed, and within

five minutes it was unanimously decided that this important event in the history of our class will take place at Oyster Harbors Club on Friday, Saturday, and Sunday, June 7-9, 1957. These dates are definitely reserved for us by the Club management. The thing for you to do is to definitely reserve them in your 1957 calendar. Alumni Day will be on June 10, and at the alumni banquet on that date we'll be presenting our 50-year gift to the Institute. You have already received letters and other "literature" relating to this gift, which indicate the general plan arrived at by unanimous vote at this class meeting last June, and the more detailed procedure decided upon by the class committee which was chosen by the 28 men present at that time, consisting of Don Robbins, Phil Walker, and Bryant Nichols, chairman, to have general charge of all the details involved in this project, with power to appoint other men to assist. There is no need of using space in these notes to re-state these plans. For the sake of general publicity, however, I will say that the following men have been selected to help in raising money for our gift, and they have accepted their assignments: Bill Coffin, Allan Cullimore, Fred Dempwolf, Parker Dodge, "Chick" Eaton, Herbert Eisenhart, John Frank, Hud Hastings, Roy Lindsay, Frank MacGregor, Sam Marx, Bill Otis, Maurice Pease, Bob Rand, Merton Sage.

Phil Walker, our class treasurer, reported that as the result of his letter mailed to our men last spring, a total of \$624.77 in class dues had been paid by 71 (out of 173 on our mailing list), and that the balance on hand in our treasury as of June 9, 1955, was \$889.92. As secretary I stated that out of the 511 men who were originally considered by the M.I.T. Alumni office as '07 men we have addresses for 261, 208 are known to be dead, and the addresses of 42 are unknown. Of course, some of these 42 may not be living. Between June 21, 1952, and June 11, 1955, I learned of the deaths of 31 of our classmates 40.7 per cent (208 divided by 511) of our original class membership have died. Of the 209 men who graduated in 1907, 90 or 43.0 per cent were no longer living as of last June. I announced that contributions to the 1955 Alumni Fund by our class amounted to \$13,172.25, a most commendable showing. However, when we realize that this sum was given by only 51 per cent of those on our class roll, and that it included one gift of \$5000 and another of about \$4800, we can't help pondering on how much larger our total might have been if 75 per cent, for example, of our men had contributed!

The real speech of the evening was made by Roy Lindsay, who was in charge of the arrangements for golf playing by our group. In an amusing and vigorous manner, he recited some of the accomplishments of our golf players during the previous thirty hours and some of the incidents that had occurred. He then awarded three golf balls to Maurice Pease as the holder of the best score, two to Hud Hastings, and one to Ken Chipman, the net scores having been determined after certain mathematical calculations had been made. Roy modestly refrained from awarding any of these prizes to himself,

although we suspected that he deserved one. Our very interesting and wide-awake class meeting was brought to a close by the showing by Phil Walker, with projector and screen, of fine colored pictures that he had taken of classmates at several of our previous reunions.

The financial statement regarding this reunion shows net total receipts from men of the class (allowing for some refunds that were made to men who had overpaid and to one man who at the last moment was unable to attend) of \$1060. Our expenses at Oyster Harbors consisting of rooms, meals, tips, and golf fees to the Club totaling \$963.03, plus \$100.00 for rental of boat, amounted to \$1063.03. The difference between these figures of \$3.03, plus printing and postage incident to publicity amounting to \$83.75, plus the cost of four class pictures (to meet our guarantee) amounting to \$8.00, resulted in a total operating deficit of \$94.78, which was paid from our class treasury. At most of our reunions our income has exceeded our expenditures. The small attendance this year resulted in insufficient income to offset fixed charges.

Most of the men left Oyster Harbors on Sunday afternoon, but John Frank, Phil Walker, and I stayed until Monday morning and then drove directly to Cambridge to enjoy the events of M.I.T. Alumni Day. George Crane, Bill Coffin, Ralph Hudson, Hermann Mahr, Don Robbins, and Gilbert Small also were on hand for at least a part of the activities of this day.

Only thirteen days after we had seen Hermann Mahr, apparently in first-class health, he entered Cape Cod Hospital in Hyannis, Mass., for an examination on June 26. His situation was diagnosed as coronary thrombosis. He was at once placed in an oxygen tent where he remained until his death on July 10. His mind was alert until the end. Burial services were held at Forest Hills Crematory Chapel in Boston on July 12. The above facts I learned through notes from Hermann's widow and her sister. Hermann was a graduate in Course V (Chemistry), and returned to the Institute for a year as a research assistant. During the next ten years he worked as a chemist in three different places and in 1918 became associated with the DuPont people in Wilmington, Delaware, where he served in various positions until the end of 1948, when he retired. At that time he was production manager of their Fine Chemicals Division. Since then he did some work as a consultant on chemical production for the Office of Production of the National Security Resources Board in Washington. His winter address was in that city, and he had a summer place at East Dennis on Cape Cod in Massachusetts. He had no children. He was a loyal alumnus and '07 man, having attended reunions and alumni days for many years.

At our reunion last June "Bebe" Hosmer told me that at some time he had called on John Tresnon at his home, 306 W. Cypress St., Phoenix, Arizona, and had found him in poor health and fairly longing for any news regarding Tech and '07. Hosmer suggested that I might write to John, and so on August 1 I mailed to him a long letter full of news regarding classmates and class activities. My effort was

abundantly rewarded by a letter from him full of appreciation and gratitude, and containing lots of dry humor. I quote from it: "I was married in England and had just got back to Boston when War I started. Stud Leavell offered me a job in Nevada but due to Western Union mistake the telegram was not delivered. That, as it proved, was the most fortunate mistake that ever happened to me, because soon afterward the twins were born (in 1915) under circumstances that I feel would have been fatal in Nevada mining district, but which gave a wonderful evidence of excellent facilities in Boston. . . . Our son, Billy (four children), works with San Francisco schools. Betty (three children) married a Phoenix boy, now the general representative for the Southwest for Cambridge Tile Co. Stanley Wires, '07, has been an officer of this company. . . . Two '07 men for whom I have a wonderful memory are Pastoriza and Turkington. To have been in a section with them at Tech was a great happiness and a continuous source of wonderment. I will describe the action when I was taking an exam where Pastoriza was also writing. In a three hour exam, for instance, after about two hours and ten minutes when I would be sweating it out wondering if I could get anything down in the last fifty minutes, a chair would scrape and move and up would get Pastoriza and march up to the desk and pass in his book. Most discouraging for us poor dummies! I would be lucky to get a merciful 'P', due to 'the old professor kind and sweet to whom I did recite.' Pastoriza with a two hour, ten minutes, canter would always get a 'C' for credit. . . . During the years 1904-1907 at Tech I felt a peculiar freedom and state of good fellowship - all my fellow students were so friendly. You see my preparation had taken place in a typical 'school tie' blue-blood institution in Lancaster, England, which had a well established history for many centuries. Naturally, a certain stuffiness existed there - 'We are the correct people, don't you know.' So the Tech outlook was refreshing. I remember the 'cop' at Boylston and Clarendon Streets. I asked him a question, and he said, 'What part of Lancashire do you come from?' . . . I ran out of normal breathing about 1945 due to emphysema. I guess it started in England in War I. A funny thing about this being always gasping or out of breath is that it is the reason I stay alive. You see I cannot move actively enough to get into heart trouble or physical weakness. Have had lots of pneumonia. Before penicillin I had a miserable life. During three pneumonia sicknesses I have wished that I might not get better. . . . Give my best to Phil Walker. I remember him well. There is not a chance in the world of my seeing Boston again because I have to stay in a dry climate unless science comes up with some kind of a device to hang around my neck to change the air I breathe (like the skin diving bags they use to stay under water). So at future reunions you can count me there in thought only." Tresnon is retired from active work. If some of you men who read this would write to him, he would appreciate it.

Sheldon P. Thacher, associated with our class in Course V, died on March 2, 1955,

at his home, 4433 Summit Drive, LaMesa, Calif. He is survived by his widow. Thacher became associated with United States Rubber Company in 1915 as an experimental engineer. In 1919 he became technical assistant to the president, in 1925 manager of tire production, in 1932 technical manager of tire development, and in 1935 manager of tire engineering and service department. He resigned from this position in March, 1942, upon being "drafted" to become special assistant to the director of the Production Division, Army Service Forces, and chief of the rubber section, Army and Navy Munitions Board at Washington. He returned to the rubber company in April, 1944, with tire engineering responsibilities, but retired a few years ago.

A note dated June 8, 1955, from Max Greenburg, 23 Chen Boulevard, Tel Aviv, Israel, written in response to my letter to him, tells of the continued good health of himself and his wife and his children and grandchildren. Regarding his wife he wrote, "She is very devoted and active in the Crippled Children's Hospital here, and gives a great deal of time and energy to it. She had much to do with raising money for it from our friends abroad. It is now a show place in Tel Aviv, with a fine building and swimming pool, gardens and trees. In fact, she is there now, as I write, as a member of a committee to meet the Minister of Health about further plans." Bill Lucey wrote me last May saying that for the previous six months he had spent most of his time in Australia. Clarence Howe, Minister of Trade and Commerce for Canada, also returned last May from a trip to Australia. He was unable to attend our 48-year reunion because the Canadian Parliament was in session at that time. Frank MacGregor wrote me on July 10. He and his wife had just returned from a trip to Alaska, Jasper, Lake Louise, and Banff. He wrote: "While in Denver I hired a car and drove about 1000 miles covering the old mining camps where I worked and prospected over 40 years ago. Quite a change to spin over black top roads that I had covered previously by horseback, stage coach, or narrow gauge railroad now abandoned, with tracks torn up."

Henry Loring wrote on August 5, 1955: "Have just returned from a trip to Europe with Mrs. Loring, and since June, with my son, William, freshman at Johns Hopkins University College of Liberal Arts, and daughter Peggy, junior at Dana Hall School, Wellesley, Mass. We visited Portugal, my primary attraction, Spain, Italy, France, and England. Portugal, as I expected, is a dear little country. My trip was mostly recreative, but one purpose was to observe construction practice in Europe, particularly in England. My present occupation is consulting engineer and my principal client, The Ferro Concrete Construction Co. I sold my controlling interest there (Henry was president there during recent years. B.N.) to the Turner Construction Company of New York and Boston, and Ferro is their wholly owned subsidiary. I am sticking around for a while, as agreed. My house on Cape Cod was so severely damaged by the 1954 'Carol' hurricane that I sold the property and took the opportunity for a European trip. Still have some boats at

the Cape, so shall be looking around for another place there, probably. Know of anything nice at a reasonable price?" Henry's address is 1278 Michigan Avenue, Cincinnati 8, Ohio.

The names of three '07 men are listed in the book, "Who Knows — And What," prepared in 1954 by the publishers of "Who's Who in America," as follows: Carl Bragdon, as an authority on varnishes, enamels, printing inks; Carl Trauerman as an expert on gold and silver mining, also manganese mining and concentration; Willis Waldo as a specialist in ramie and kenaf decortication, degumming, and fiber processing, also abaca decortication.

Late in August a letter received from Edward F. Kelly, Jr., told of the death on September 26, 1954, of his father, Edward F. Kelly, a graduate in mechanical engineering with our class. I wrote a letter of sympathy on August 29 and requested information regarding Ed and his family since 1942, which was the last year in which I had direct news from our classmate, but at the time of sending in these notes, I had received no reply. Until 1913 Ed was a power salesman for New York Edison Company, and then he became associated with Central Illinois Public Service Company at Springfield, Illinois. In 1942 he was vice president of that company. I do not know about his more recent business relationship. He had three daughters besides the son referred to above. Whether or not they, or his wife, are now living, I do not know.

The name of Carl Trauerman is included in a new biographical compilation entitled, "Who's Who in World's Jewelry." — The numerous duties and responsibilities borne by Phil Walker were increased on last August 30 when he was appointed by Governor Herter of Massachusetts as a member of a commission which will study possible improvements in the Blackstone River, which flows through Whitinsville, by means of cleaning, dredging, and flood control. I attended the First Annual Alumni Officers Conference held at the Institute from the morning of September 9 until early afternoon on September 10. With many M.I.T. officers and department heads, together with alumni class, council, and club leaders, totaling about 400 men, in the group, the finely arranged program provided an exhilarating, informing, and altogether delightful experience. Don Robbins was also there.

Our campaign to secure money in a large enough amount to be worthy of '07, to become our 50-year class gift to the Institute in June, 1957, is under way, as you know from letters you have received. We bespeak your generous participation. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit St., Whitinsville, Mass.

• 1908 •

The fourth and final dinner meeting of the 1954-55 season was held on May 18, 1955, at the Faculty Club, Cambridge, Mass. The following were present: Bunny Ames, Bill Booth, Myron Davis, Leslie Ellis, Sam Hatch, Winch Heath, Steve Lyon, Linc Mayo, Henry Servell, Joe Wattles and Nick Carter.

We congregated in the Cocktail Lounge

as usual and were able to get a table to serve as the "rallying point" for '08-er's as they arrived, and while sipping suitable libations were able to get up to date in class gossip. Two more classmates are moving to Florida — Herb Cole and Sam Gardner, both of whom will be located near Fort Lauderdale. About 6:30 p.m., we adjourned to our private dining room for a very excellent dinner. Following discussion of progress in raising our 50th year gift to the Institute, it was agreed that a good start had been made. Joe Wattles then showed two very fine color talking motion pictures — one the rehearsal of the famous "Telephone Hour" with Lily Pons as guest artist and then a reel by the Ashway Line Co., showing the sport of fishing for Bone Fish in Florida. The class was well represented at Alumni Day on June 13th. The weather, as usual, was perfect. We had the following at the lunch in Dupont Court: Bill Booth, Jim Burch and Mrs. Burch, Nick Carter, Leslie Ellis, Sam Gardner, Sam Hatch, Steve Lyon, Linc Mayo and Mrs. Mayo, Waldo Morrison, Harry Patten and Mrs. Patten, Miles Sampson, Henry Sewell and Mrs. Sewell, Charlie Steese and Frank Towle. After the luncheon speeches some of us visited the new chapel and saw interesting movies in the new auditorium, finally getting together again at the Faculty Club before going on to the Statler for the banquet. After resting, Charlie Steese drove Frank Towle, Nick Carter, Sam Hatch, Leslie Ellis and Steve Lyon to the Statler, dropping Steve Lyon at the Back Bay station. We tried to persuade Steve to stay in for the banquet but without avail. In Jim Burch's room at the Statler we were joined by Linc Mayo and Waldo Morrison. After reviewing the events of the day, the eight of us adjourned to the banquet hall. Our age gave us a table near the front, in fact we were right beside the tables of the 50th year class. While we missed the usual steins to add to our collection, the Tech plates made a nice souvenir of a wonderful Alumni Day. George Whittle of Berkeley, Calif., wrote George Belcher, our class agent, as follows:

"Your note of May 18 re our class's 50 year fund has remained unanswered. I ran across it today and have just sent to the Institute a check which is much smaller than I wish, but all that I can give right now. I have retired, but pick up an occasional job in my consulting practice, just to supplement my work in the garden and around the home in keeping me as busy as a young fellow of 70 should be. With kindest regards to yourself, Nick Carter, Lincoln Mayo, and other classmates whom I met at our 40th reunion on the Cape. I still have the T-08 Navy cap which was given me at the reunion, and wear it while working in the garden."

George Freathy reported a "little reunion" on the Cape during July when he, Harry Lord, Les Ellis, and George Belcher visited Dick Collins at North Eastham where they spent a very pleasant afternoon. George didn't mention lobsters, but I know Dick has some pots out so perhaps they enjoyed hot boiled "Homarus Americanus."

The Pittsburgh, Pa. *Sun Telegraph* of June 5th had a very interesting illustrated write-up re Russell T. Hyde who was re-

tiring after 30 years as a Professor at Carnegie Institute of Technology. To quote from the article: "Prof. Hyde, a bit like the famous Jekyll and Hyde combination (only in a far pleasanter way), is in reality an engineer, architect, inventor, and artist. Retirement holds no horrors for Prof. Hyde. He will continue his scientific work on the side with Burrell Corp. He will find more time to paint on his own and to spend with his attractive family."

We are very sorry to report the death of two loyal supporters of 1908; Bill McAuliffe on Apr. 14, and Jeff Beede on June 23. Bill had been a consulting engineer for the firm of Shepley, Bulfinch, Richardson and Abbott for a number of years. He leaves two sons, William J. Jr. and Edward J.

The *Belmont Currier* reported: "During World War II Mr. Beede served as deputy chief warden of Belmont's civil defense organization, in which he was one of the most active workers. For twenty years he was the town accountant of Belmont, and during this time belonged to many civic affairs committees. Surviving him are his wife, Mrs. Marguerite S. Beede, a daughter and two sons. A younger son died in an automobile accident in 1947." George Freathy, Linc Mayo and Nick Carter were able to attend the services at Christ Church. We are going to miss Bill and Jeff.

The first dinner meeting of the 1955-56 season will be held at the Faculty Club, 50 Memorial Drive, Cambridge, at 6:00 p.m. on Wed., Nov. 16th. Dinners are also planned for Wed., Jan. 18, 1956, Wed., Mar. 21, 1956, and Wed., May 16, 1956. Plan to be with us on those dates. How about sending in some news of yourself? They say it's hard to make bricks without straw, but it's even harder to write notes for the *Review* without news. Please send some in. — H. LESTON CARTER, *Secretary*, 14 Roslyn Rd., Waban, Mass. — LINCOLN MAYO, *Tr. and Assistant Secretary*, 47 Alton Place, Brookline 46, Mass.

• 1909 •

Your secretary was unable to be present at the Alumni Day luncheon on June 13 since he and Muriel were just returning from a trip to the Caribbean but he was in time for the evening banquet. Henry Spencer, II, however, made a record of those he saw at the luncheon as follows: George Bowers, I; John Davis, II; Francis Loud, VI; Ken May, VI; Gardiner Perry, VI; Art Shaw, I; Laurence Shaw, V; Henry Spencer, II; George Wallis, II; Harry Whitaker, VI; John Willard, II. Most of those at the luncheon also attended the banquet, and in addition there were the following who were not recorded as being at the luncheon: Howard Congdon, I; Tom Desmond, I; Austin Henderson, II; Herbert Palmer, VIII. The Alumni Office reported that both Brad Dewey, X, and Lyman Whitney, II, had registered. There were fourteen of us at the banquet and so far as we could tell we had the largest number present of any of the older classes.

Laurence Shaw reported that he had just retired from the Avon Sole Company, Avon, Mass., after having been with the company since 1913. His new address is Box 817, Cotuit, Mass. Herbert Palmer also announced that he had retired in

1949. For twenty years he had been teaching physics and chemistry and was principal of the Perley High School, Georgetown, Mass. In his earlier years he did notable work in research on radiation in conjunction with Professor Duane of Harvard, who was an outstanding expert in this field, and he determined the constitution of H-Radiation. These results have been published and appear in the International Physical Tables. Herbert in his retirement has been active in masonic and church work.

In recent years we have heard little from Jim Finnie, VI, who played end on the class football team and took leading parts in the Tech shows, was class treasurer one year, and was otherwise active in class activities. Recently, Art Shaw, who was a classmate of Jim's at Clinton High School and was always close to him, received a letter stating that Jim now has a home on Irving Street, Hampton Beach, New Hampshire, where he and Mrs. Finnie plan to spend eight months of each year, and to spend the remaining four months in Florida.

Your secretary, together with Jim Critchett, VIII, had the pleasure of attending the First Alumni Officers Conference on September 9 and 10. This conference is something new and is primarily sponsored by the Alumni Association but is seconded and heartily supported by the Institute. Its general objective is to bring the Alumni into closer contact with the activities and needs of the Institute so that they can direct their efforts towards helping the Institute much more intelligently and effectively. To accomplish this, members of the Educational Council, the Alumni Council, class officers, class agents, and Alumni club officers were all invited and something like 260 attended. Those attending are, of course, in close contact with the Alumni and all phases of their activities and so will inevitably spread the information obtained at the conference throughout the Alumni body.

Key members of the Institute Faculty and three students told of the educational, research, and student activities as well as the needs of the Institute. A description of the conference by Beverly Dudley, '35, *Review* Editor, will be found elsewhere in this issue and our president, Jim, will tell more of the details of the conference and his impressions of it in next month's class notes. We might add that the class was not only represented by Jim and the secretary but also by Dr. George R. Harrison, who was made an honorary member of the class at our forty-fifth reunion and who was one of the key figures conducting the conference.

At least some of you will remember Kenneth Trimmingham, XIII, who spent his freshman year at the Institute with us. Beginning the middle of last May your secretary and Muriel made a trip first to Bermuda, then to the West Indies including Nassau, Montego Bay, Jamaica, San Juan, Puerto Rico, and finally to Trinidad from where we sailed for home. While in Hamilton, Bermuda, we took the opportunity to visit Kenneth in his office in the Hamilton store of Trimmingham Brothers Ltd. and we know that the class will be interested in learning of him and his activities. Those who have visited Bermuda

know that "Trimingham's" is the largest department store in Hamilton and there are three smaller branches located in different parts of the island. The stores are excellent ones selling high-quality merchandise including men's and ladies' wearing apparel as well as souvenirs and other articles which tourists like to purchase. The Trimmingham family has deep roots in Bermuda, the original ancestors coming there in 1630. The present business was founded by Kenneth's grandfather in 1844 and it has become large and prosperous. At the present time it is conducted by Kenneth and his brother Elden H. Kenneth has always liked yachts and boating and came to the Institute for the purpose of becoming a yacht designer like the Herreshoffs. However, with the increasing pressure of his father's business he saw that he was needed to help carry it on, so he gave up his studies to go into the business. Nevertheless he has always retained his love of yachts and has raced them many times, including regattas in such distant places as Long Island Sound and Norway. His picture is in the Class Album and aside from the inevitable gray hairs he has changed but little. He is married and has two sons, Kenneth Junior and DeForest W. DeForest is also a skilled yachtsman and in the summer of 1954 captured the Prince of Wales Cup in the International Dinghy Races held in England, the first time that the cup had been removed from England in twenty-one years. Kenneth regrets that his business and remote location have prevented him taking more interest in Institute affairs. If any of you happen to go to Bermuda, we know that you will be interested in the fact that one of the partners of its largest store is a classmate of ours.

As a result of Jim Critchett's letter of April 20 requesting members of the class to come forth with more news items, we received the following from Lockwood Towne: "I retired as Vice President and Construction Manager of Stone and Webster Engineering Corp. on January 1, 1954. After loafing a few months I spent the summer and fall in Washington as a consultant to the Task Force on Real Property of the Hoover Commission, after which my wife and I spent the winter in Italy returning last month (April 1955). I am now engaged as gardener and handy man on a small estate in western Connecticut and like Mr. McCawber am 'waiting for something to turn up.' We are located between Danbury and New Milford, Conn. and are listed in the Danbury telephone book. We would be delighted to have anyone who is passing this way drop in and see us."

In earlier notes we have told of the rising career of Dr. Barnaby Keeney, the son of Bob, III, of our class. He has recently been appointed President of Brown University succeeding Henry M. Wriston. Barnaby joined the faculty of Brown University in 1946, rising rapidly to become dean of the Graduate School in 1949 and dean of the College in 1953. He graduated from North Carolina in 1936, received his master's degree from Harvard in 1937, and completed the doctorate there in 1939. He enlisted in the Army in 1942, rose to Captain of Intelligence, and received the Silver Star, the Bronze Star,

and the Purple Heart. He married Mary Elizabeth Critchfield of Hartford in 1941 and has two daughters, Barbara Alice, 11, Elizabeth I, and a son Thomas Critchfield, 8. The class wishes President Keeney every success. Bob must be real proud of him.

Your secretary and several members of the class were surprised to see in the *Boston Herald* a notice of the death of Philip (Cy) Young on June 17 accompanied by a part-column obituary. We wrote immediately to his wife Edith expressing the sympathy of the class as well as our own and, in accordance with the notice, sent on behalf of the class \$5.00 to the Heart Association. We received the following reply from Phil's son, Richard: "Both Mother and I would like to thank you very much for your kind letter of the 19th. It certainly is a comfort to know that so many folks are so kind when we are having difficulties. We appreciate very much the donation of the Class of 1909 to the Heart Association and sincerely hope that all such contributions will assist in helping people with similar troubles in the future." A long clipping from the New Bedford *Standard-Times*, headed by Phil's picture, accompanied Richard's letter. Later the following note was received from Mrs. Young: "My family and I thank the Class of 1909 M.I.T. for their donation to the Heart Fund in memory of Phil. I feel sure it will help others in the future and the thoughts and sympathy of Phil's friends are helping us now. I am glad he could attend the 45th Class Reunion and I do appreciate knowing some of his classmates were able to attend the services."

John Davis, II, who has been closely associated with Phil beginning with their student days, has written the following memorial to him: "Philip Endicott Young was born December 1, 1885. He died June 17, 1955, following a heart attack on May 31. Phil was graduated with the Class of 1909 receiving the B.S. degree in Mechanical Engineering. At Tech he was a member of the Class Relay Team, the Golf Team, Class Executive Committee and Class Day Committee, and one of its best looking members. A glance at the photograph will verify this comment. While at Tech Phil showed that he had rare executive ability when he was able to convince Mr. Morse, head of the Eastern Steamship organization, to allow him to make tests for a thesis on the Steamship Harvard, which ran between Boston and New York. Phil's thesis associates were Howard Fisher, II, Carleton Hubbard, II, and John F. Davis. During the tests Phil was on the bridge with the captain and Professor Everett of the faculty while his associates toiled in the engine and boiler rooms and hold. Soon after graduation Phil founded the Acushnet Company of Acushnet, Mass. From a modest company of \$25,000 and less than a dozen employees it grew under Phil's expert guidance to a company rated in the millions with over a thousand employees. His company's most famous product, 'Titleist' Golf Ball, is sold nationwide by 'pros' and its regular advertisement in the *Saturday Evening Post* is a gem. The members of '09 who attended the 45th reunion at Chatham Bars

Inn a year ago were privileged to see color sound-movies of Phil's plant, as well as a few shots at his home in Fairhaven, Mass., his winter home at Coral Gables, Florida, grandchildren playing with the pet monkey, which Phil's wife Edith said didn't belong to her side of the family. Survivors are his wife, the former Edith Ames, a daughter, Mrs. David Harris of Newcastle, Pa., a son, Richard B. Young, who has succeeded his father as President of the Acushnet Process Company, and five grandchildren. The memorial service at the beautiful Unitarian Memorial Church in Fairhaven, Mass., was filled to capacity by employees and friends. John Willard, II, and John F. Davis represented '09. At this service the Rev. Clifton G. Hoffman, pastor, said of our classmate: 'Integrity is a precious jewel, a pearl of great price, to be diligently sought after. Among all the qualities of human nature it alone offers promise of lasting satisfaction. Not too many are ready to pay the cost that integrity, faithfulness to an ideal, determined pursuit of a dream demands. There is the risk of being wrong. There is the possibility of offended friends. There is the unhappy prospect of standing alone in responsibility. It requires faith, courage, patience, the imagination to build or create. Philip Young was a man of integrity.'

We also regret to announce the death of Lewis H. Johnson, VI. We in Course VI knew him well and were not surprised at his high accomplishments in the telephone art. Your secretary knew him particularly well since he first came to Pleasant Beach near Rockland, Maine, summers and finally moved to Rockland for the year around. Rockland is only forty miles from the Isle of Springs and we have already told of his visit there with Blanche in the summer of '52. We wrote to Mrs. Johnson expressing to her and the family the sympathy of the class. In her reply, which was a general letter, she told of Gardiner Perry driving her and Lewis home from the Deaconess Hospital in Boston and she also expressed thanks for the many letters and cards of sympathy which had been received. Francis Loud has always been closely associated with Lewis and the family and was kind enough to write the following memorial: Lewis Howes Johnson, retired telephone engineer, Rockland, Maine, died May 12, 1955 in Rockland, the city where he was born, on the day following his sixty-ninth birthday. After graduating from the Institute in 1909 he joined the staff of the Western Electric Company at Hawthorne, Illinois. Transferred later to New York, he continued with the Western Electric Company until 1925 and with the Bell Telephone Laboratories from 1925 until his retirement in 1947, having responsible charge of many important developments in both manual and dial telephone systems and being the recipient of numerous patents for improvements in the telephone art. He was a member of the American Institute of Electrical Engineers and the Telephone Pioneers of America. He was much interested in motor-boating and in the utilization of the power boat fleet in wartime service. He was a Past Commander of the New York Power Squadron,

a Past Vice Commander and Director of Education of the U. S. Power Squadron, a charter member of the Institute of Navigation, and a life member of the Amateur Astronomers Association. He was married in Roxbury (Boston), Massachusetts, on June 10, 1909 to Blanche Wilda Robinson, who survives him, as do a son, Ralph, who is connected with the Associated Press and has just been transferred to Boston, and two daughters, (Mary) Mrs. George S. Albertsen of Eastport, Maryland, and (Betty) Mrs. Thomas S. Sexton of Granby, Mass.

We have also received a notice of the death of Lewis C. Bennett, VI, which occurred on March 28 of this year at Walkersville, Maryland. Our records show that he was with the class only during his sophomore year and that from 1916 to 1953 he lived in Chicago and was connected with the Edward Valve Company. In 1953 he moved to Walkertown, Maryland, and on January of this year moved to Walkersville.

During the summer we learned of the death of Mrs. George R. Harrison and we wrote to George expressing the sympathy of the class. He replied thanking the class for its sympathy and interest. — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 549 W. Washington Street, Chicago 6, Ill.; MAURICE R. SCHARFF, 366 Madison Avenue, New York, N. Y.; GEORGE E. WALLIS, Wenham, Mass.

• 1910 •

It is with sorrow that I have to report the passing of Louis Rowe on August 29th after a brief illness in St. Louis. His brother Ed, of the Class of '06, sent me the following: "Louis was born in Gloucester September 11, 1887, was a Captain in the 'High School Cadets' and Major of the MIT 1910 Cadets. For a while he served in the Army Engineers and had charge of the Engineers' river and harbor surveys. His thesis, I believe, was a study of wave action on breakwaters and jetties. Being sent to Emerson Electric Co. in St. Louis he soon entered their employ and was with them from 1929 to 1939, becoming treasurer and comptroller, and handling the production details as well. During the 40's he was with the White-Rodgers Co. and speeding up production kept him pretty busy. Since he retired in 1953 from White-Rodgers Co. of St. Louis, of which he was Vice President, Secretary and a Director, Louis has enjoyed his leisure at home in Glendale, with winter vacations in Florida and summers in upper Wisconsin. His hobby was model making, his first being what I call a brig; he was currently working on a Gloucester fisherman, the well known schooner."

I am in more or less of a quandary about writing about our 45th Reunion which was celebrated in June of this year. If I write up this event in full I am afraid the Review Editors will object to the amount of copy. Also, there are many of the class who do not receive the Review and I am sure they are interested to hear about a most enjoyable event. Since the Reunion I have been trying to find time to send out a letter to every listed member of

the class, telling about the really fine time we had at Cape Cod. Therefore, I promise to send out this proposed letter so that it will be received just before or just after the receipt of the November issue of the Review. The order of business at the Reunion should be published in this Review. On the evening of June 11, 1955, a class meeting was held, with Cliff Hield, Class President, calling the meeting. The order of business was to elect class officers for the ensuing five years. Hal Manson was elected President, George Lunt Vice President, J. B. Babcock Class Agent and Chairman of the Reunions, and I was again elected Secretary. Just for the record, there were 62 attending the affair at Chatham, including wives, sons, and daughters. At the Alumni Day Luncheon and Banquet there were 42 attending, including wives. A complete list of those attending the various events will be included in my promised letter.

Shortly after the Reunion Allen Gould called me and I had the pleasure of meeting his wife and having luncheon with them. They were on their way to Nantucket where they have been spending their vacations for some years.

One day this Summer I was entertaining a young fellow by the name of Sutherland. He mentioned the fact that his father was an MIT graduate of the Class of 1910. His father is Carroll A. Sutherland who has retired and is living in Eugene, Oregon.

I was on the point of signing off on this installment when the mail was placed on my desk and the first article to meet my eye was a first class mail parcel from "Boxford," Mr. and Mrs. V. T. H. Bein. I wish I could send a copy of the contents to every member of the class. It runs a wonderfully prepared photographic review of our 45th Reunion at Chatham and pictures of the Tech buildings and Copley Square when we attended MIT. The introduction to this gem is as follows; it will give a general idea of the contents.

"I could not resist the temptation to send you some of the pictures I took at the reunion, as well as a few taken around the Tech buildings while we were there. Nor can I resist a few comments. Stand aside, lest you get hit.

"First, your picture (IV): I have just set it beside the one in the '10 portfolio. Unlike many of us, you have grown old 'gracefully.' The best that most of us can merit is that we have kindly faces, or maybe are a little distinguished looking. We had a man working for us recently. I showed him a picture of myself taken while at Tech. I asked him if he knew who that man was. He looked at it carefully and then, looking at me, said No. I said, 'Well, you are looking right at him.' He looked again at the picture and then at me and remarked, 'You don't look like yourself any more.' That, I fear, is the way with most of us. Few I would have recognized, and few knew me.

"Babcock (I): He has been a professor most of his life. Being the intellectual he is, it is not surprising that he has a high forehead, but if I had that much hair, or I should say had as many hairs, I would make more of a feature of them.

"Clapp (X): He was as you know the baby of the class. There can be no ques-

tion now that he has attained full adulthood. He was a precocious lad tho.

"Holbrook (XIII): I took this picture at his home while Mrs. Holbrook tidied him all up. I caught her in the act. Unfortunately there was a light streak across the film between them. By dodging as I printed, I managed to get a fairly good picture of the "Brook." He told a corking good story at the 40th Reunion. While at Tech, he lived at the Tech Chambers eating in a boarding house on St. Botolph Street, \$4.00 a week I believe. They often served pie for dessert, apple pie it was, and good. The pies were cut as usual into 6 portions. One day, they were cut into 7. The manager said it was due to higher prices. Time seems to change little in regard to advancing prices and if operating today they are probably being cut into 25 or 30 pieces. The boys protested. However Brook decided to do something about it. It seems that at the Chambers they had numerous non-paying guests — big fat cockroaches. Brook caught one and took it to St. Botolph St. When he got his one-seventh of a pie, he ate all but one corner. He lifted the crust and inserting the cockroach showed it to the proprietor. There were profuse apologies and Brook got another piece at once. But he could not try this dodge too often.

"Turnbull (II) and his distaff: He, too, has a high forehead. He has filled out a bit and has now attained those proportions befitting the successful elderly business man. He is Superintendent of the Merrow Machine Co. of Hartford. Mrs. Turnbull was a delightful and charming woman."

"Kenneth P. Armstrong (I): — He was my room mate at the Reunion. My nickname for him is K.P. I ran across him at a Tech dance here in Washington about 1917 and have seen much of him since. His wife was very beautiful and charming. She died a few years ago — a great shock to K.P. He sold his house here in Washington, retired from the Justice Department and moved to Florida. There he built a small addition to his eldest son's house where he seems to be quite contented. He has entered into the life of the community and pretty nearly runs the place. I always enjoy talking with him, for he is well informed and has a keen mind.

"The pictures of the Tech buildings need no explanation. They are doubtless as familiar to you as to me. . . . The ancient sight seeing bus brings back memories. The costumes and the old vehicles too are amusing, though they were the last word of that day.

"Now we come to the two pictures of me (XIII), one taken in 1909 and the other recently. I wonder if you can tell which is which. The latter was taken on a cruise on the good ship *Albatross* (a 34 ft. sea-going auxiliary ketch) while I was peeling potatoes for the galley.

"The last picture shows the venerable Bieny chatting with his wife. We were at a little cabin in the mountains of Vermont. I took the picture with a delayed action Exacta. I set up the camera on a tripod, pressed the button and had 13 seconds to get into place. My wife's amusement was justified as I tried rather clumsily to get into that low chair and to

assume as natural a position as possible in a matter of seconds. It was funny, I guess; anyway, my wife thought so." — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont St., Boston, Mass.

• 1911 •

As Class Agent let me open this first set of notes in current volume by thanking the 128 classmates who generously contributed \$9,314 in the Karl Taylor Compton Memorial Alumni Fund! Our percentage of contributors, 59 percent, was fourth highest among all classes, while our \$72.80 average contribution was 15th best. As you already know, the total receipts, as a result of the doubling of alumni gifts by the Mysterious Mr. Smith, was \$1,214,796 — a stunning figure. Our class has 66 "100 per cent Club Members," who have contributed to all 14 fund drives to date; 10 contributors to all but one and 4 to all but two.

We lost three loyal classmates during the summer just past: Rufus E. Zimmerman, IX; George B. Cumings, VI; and Kenneth W. Faunce, VI. "Zim" Zimmerman, who retired in 1952 as vice-president of the U. S. Steel Company, died suddenly on June 21st following a kidney ailment; George Cumings, who retired three years ago, following a brilliant career as a telephone engineer with New England Telephone and Telegraph Company, also died suddenly on June 25th, following a heart attack; while "Ken" Faunce, a leading insurance leader and member of the firm of John C. Paige & Company, Boston, died following a serious illness, the end coming on August 2nd.

Born in Mount Pleasant, Pennsylvania, Rufus Zimmerman was graduated from Franklin and Marshall in 1908 with a Ph. B. degree. He joined us in our sophomore year and received an S. B. degree in 1911, remaining at the Institute teaching physical chemistry until entering the steel industry in 1914 with the American Sheet and Tin Plate Company. Among his accomplishments there were the devising of methods to refine low-grade taconite ores, the development of techniques of ship welding, finding uses for steel mill wastes and development of electrolytic tinplate. From 1922 to 1932 he was assistant to the vice-president of A. S. & T. P., leaving that post to become assistant to the president of U. S. Steel, being made a vice-president in 1933.

In 1938 "Zim" was made a member of the executive committee and vice-president in charge of research and technology and in 1951 he became chairman of the research policy committee.

He was a member of numerous technical societies and committees and in November, 1946, received the American Society for Metals' Medal for Advancement of Research. He held honorary doctorates from his original Alma Mater and from Thiel College. Surviving are his wife, the former Anne Burns; two daughters, Mrs. Walter Nuckols and Mrs. Nelson Price; and a brother, Clarence E. Zimmerman. "Bob" Haslam, X, represented the class at the funeral at Christ Church, Short Hills, New Jersey, writing: "The service was all that one could wish and the Reverend Mr. Cooper, who knew

Rufus well, paid him some very high compliments, he having been prominent in the activities of Christ Church." We have lost a loyal and outstanding member of the class.

Born in Winchester, Massachusetts, and living there all his life, George Cummings entered M.I.T. with us after graduating from Winchester High School. Besides being a fine scholar, he was a fine track man and won many hurdle races during his career. Shortly before his death, George had presented all the trophies, cups and medals he had won to the Institute.

His entire business life was devoted to engineering with New England Telegraph & Telephone Co. in Boston and during both World Wars he was a special electronics advisor to the Quincy Naval Shipyards. Very active in Boy Scout work in his native town of Winchester, George was a past president of the Winchester Boat Club and treasurer of the Unitarian Church. He was a lifelong member of the Telephone Pioneers of America, the Woburn Royal Arch Chapter, the Massachusetts Convention of High Priests and William Parkman Lodge, Masons, also Aleppo Temple of Boston. He served on the area scout council for many years and was also a member of the Winchester Historical Society.

The editor of the Winchester weekly newspaper paid George this well-deserved tribute: "The sudden death of George Cummings came as a shock to the community. Last member of his immediate family, descended on both sides from the fine old stock that made New England great; devoted son and brother, active church member, loyal citizen, good friend and ideal neighbor, his memory will long be cherished by a host of friends, young and old alike, in all walks of life." Quiet and unassuming, yet a most personable bachelor, George was a regular attendant at all class dinners and reunions—we have lost a fine classmate, Jack Herlihy, II; Carl Richmond, I; and I attended the funeral.

One of the youngest members of our class—born in West Roxbury, Massachusetts, December 17, 1890—Ken Faunce attended Boston English High School and then in 1911 graduated from M.I.T. Through further study he became a recognized authority in insurance fields, joining the Paige Company in 1914. He had some experience with the Portland, New York, Atlanta and Los Angeles offices of the company over the years, finally becoming a partner in the firm in 1941.

He was a vice-president of the Boston Protective Department and chairman of the conference committee of the New England Advisory Board, as well as a director of the Massachusetts Association of Insurance Agents. He was a member of the Algonquin Club, Beacon Society, Boston Madison Square Garden Club and the Ancient and Honorable Artillery Company. He leaves his wife, the former Grace Tufts of Dedham, a son, Anthony Faunce of Lincoln, Massachusetts, and a sister, Miss Mildred Faunce of Boston. Funeral services were private. Another loyal and active classmate has left us.

We had a fine turnout at this year's early June Alumni Day, with 15 class-

mates and three wives in attendance. By curious coincidence George Cummings, VI, looked better than he had for a long while as he attended both the luncheon and banquet. Others attending both events were O. B. Denison, VI; Henry Dolliver, I; Joe Harrington, VI, and his wife, Rose, on from New York; Jack Herlihy, II; Carl Richmond, I; Emmons Whitcomb, X; A. O. Wilson, I; and Erv Young, I, also here from New York. Others present at the luncheon were John Alter, IV, and his wife, Margaret; R. W. Cushing, VI, all the way from Washington, D. C.; Cal Eldred, VI; Tom Haines, II; Roger Loud, VI; and O. W. Stewart, I, and his wife, Gertrude. Roger Loud was telling us at lunch how proud he is of his two sons, both with two degrees from M.I.T.: Warren S., with S.B. and Ph.D. degrees, now a professor of mathematics at the University of Minnesota; and Alden, with S.B. and S.M. and now a candidate for Ph.D., a research associate in Medicine at the Massachusetts General Hospital in Boston, while studying at Harvard. Two fine young men!

Thanks to "Cac" Clarke, that fine secretary of the Class of 1921, who deservedly won the first beaver award for "outstanding class secretary" at the First Annual M.I.T. Alumni Officers' Conference, which I attended on September 9-10, I learned from a *Newark Evening News* clipping (August 26) that Bill Martin, VI, retired Bell Telephone Laboratories vice-president, has been named director of research and development for the U.S. Army by Army Secretary Brucker. He had been deputy assistant secretary of defense for engineering since January, 1954, when he retired from Bell Laboratories. Bill and his wife, the former Margaret Grier of Baltimore, are living at The Brandywine, 4545 Connecticut Avenue, N. W., Washington 8, D. C.

Had a fine letter from Bert Fryer, VI, in the late Spring, which opened with some sad news: "We have just had word that Charlie Barker's widow, Mary, passed away in mid-May at Oakland, California. She was a very brave woman and certainly deserves great credit for raising two fine boys, single-handed, each of them now married and parents of daughters."

A resident of Carnation, Washington, where for a number of years he has been a consulting lumber drying engineer, Bert continued: "I am just now cleaning up my business, having sold out all of my interests in British Columbia and in California. Now all that remains is my engineering business that I am passing along to a couple of young men and I will act as consulting engineer for them on their dry kiln work."

"My farm hobby has become an octopus and we are this year farming over 24 acres of strawberries and handling some 200 acres of corn production, that we pack and market. I am now trying to get out of this, as it takes too much out of me and is not too lucrative as an investment. Too bad our get-togethers are so far away from here, for about the second week in June our strawberries are at their peak and I could furnish plenty of fruit for reunions if it were not too far to ship fresh fruit. It may come some day, with all the

new methods that are being developed. It would help a lot if we didn't get so much spring rain, making it impossible to plow as early as we should. If we don't get another freeze-out as we have for two years, this year should be tops for strawberries, but the cold spring is slowing the planting of corn and we may have a repetition of last year's "blank" from 15 acres of corn, just too cool to mature. That's the beauty of farming—you might better play poker or the races as far as the odds are concerned. We may get east sometime this year and will look you up if we make it."

Royal Barton, VI, who retired a year ago after 30 years with Electric Bond and Share Company and Ebasco Services, Inc., writes that he and Jessie spent last winter in Miami with her father, where they "kept our hands in gardening practice and things looked so drab upon our spring return to Mountain Lakes, New Jersey, and our 11 Powerville Road home."

"But we persevered," his letter continues, "and now our home grounds look pretty good. If you and Sara are interested in landscaping and gardening, you might take a look at a new book, 'Landscaping Your Own Home,' by Alice L. Dunstan (our landscape architect), published by The MacMillan Company. She has some pictures of our place in it, plates 3 and 21."

"My daughter in Hawaii wants us to come there next winter and we hope to be able to go, so if you don't see me at the 'Welcome to Dennie' luncheon in New York next January, that's probably where we shall be. Before I retired, Jessie's father gave me this advice: 'Don't retire! It's too much work.' And now I know how true that is. So far Jessie has been able to stand my being around the house all the time, though her father thinks she rates some kind of a medal for that."

Had a nice letter from Jim Duffy, VI, Chicago business consultant, on the eve of a European trip for the summer. "Sorry you cannot get out here occasionally," he writes, "as you used to in the past. However, I am subordinating my world wide wanderings next year to our Reunion and I hope to see you then. Virginia, my youngest daughter, is going East to college this fall and I probably will bring her with me if dates don't conflict. In 1951 I brought Jimmie with me, as he was entering M.I.T. that fall. He has graduated in February this year and is now doing his stretch in the Air Force at the National Security Agency in Washington. Had lunch with Lloyd Cooley, X, a few weeks ago. He is feeling fine and like myself is giving little thought to retirement. I don't know what his reasons are, but I am still unable to convince the neighbors that the wolf at my door is a police dog."

Later he sent me a couple of attractive postcards from European spots, the first from Denmark, showing Kronberg Castle—"where Hamlet had that famous speculation as to whether his insurance policy contained a suicide clause" and the other from Berlin, with the note: "Spent all day in the Russian Sector and had a dinner of Erdelyi Fatanyeros, with a botch of Ba-

latonfuerti at their swankiest restaurant." Sounds awful! But right!

Jim Campbell, I, of Eadie, Freund and Campbell, 500 Fifth Avenue, New York 36, writes that having been asked as consulting engineers so many times how a heat pump works, they came with the idea that "maybe this is of enough general interest to be published." Jim said one technical magazine considered it too elementary, while another considered it too technical. So the firm finally offered it to *Progressive Architecture* as an elementary refresher course and they accepted it. Jim and Toni, by the way, are now at a new address in New Rochelle, New York — 384 Collins Avenue.

The article, with readily readable diagrams, is titled "The Heat Pump in Air Conditioning" by James K. Campbell and Jim sent me a reprint which I enjoyed very much. The gist of the article seems to be that a heat pump is just a refrigerating system working backwards — reverse-cycle heating. Near the end of the article, Jim states: "If economic conditions are favorable, the heat pump will provide an almost ideal installation. It will cool in summer and heat without fuel in winter, with humidity controllable throughout the year." Look up the July, 1955, issue of *Progressive Architecture*.

Carl and Helen Richmond spent most of the summer at Port Clyde (Tenants Harbor), Maine. When Carl wrote on July 7th, believe it or not, they had a good fire going in the fireplace that evening. "Rockland is only 20 miles from here," he writes, "and it's just as hot there as it is in Boston. The mackerel are running this week, with 37,000 pounds coming in here between 8 P.M. yesterday and 2:30 A.M. today. They were immediately iced in barrels and trucks left with them for Boston and New York early this morning. We have our lobsters in the pot within two hours of their leaving the ocean bottom; they never see a lobster pound before we have them. Mackerel is just as fresh. Down at the Port Clyde fish pier there is a fine ornamental sign reading: "Old fishermen never die; they just always smell that way."

Was sorry not to have been able this summer to accept an invitation from Bill Coburn, XI, "to visit a real Kentucky Breeding Farm in New England" — his Blue Chip Farm, Drinkwater Road, Hampton Falls, New Hampshire, where they have the finest blood lines of registered saddle bred horses only. Bill and his wife are the owners and Larry Bowman their trainer and manager. In mid-June, following his return home with Rose from Alumni Day at M.I.T., Joe Harrington, VI, said he was the only Eleventh present at a Technology Club of New York dinner at the Scarsdale Country Club.

According to Dick Ranger, VIII, president of Rangertone, Inc., Newark, New Jersey, he is to be chairman of the 1955 Convention of the A.E.S. in the Hotel New Yorker, concurrent with the annual Audio Fair. Dick says it will include panel discussions on transistors, amplifier design and tape recording — to bring out the "right and easy way" to handle each type of equipment. The annual banquet was held on Columbus Day.

Phil Caldwell, I, and Bobbie are now

living in Wilton, Connecticut, and they love it. They are not far from the Harry Tisdales, who are now living in Waterford. Phil says they had Rose and Joe Harrington as weekend guests this summer and Joe did a very nice sketch of their place. "They expressed such a great desire to live in this beautiful section of Connecticut," Phil writes, "that I am going to see if I can find a place for them." Later I heard from Harry Tisdale, X, that they now have carrier mail delivery, so the address is now 9 Sunset Drive, Waterford, Conn. "Everyone getting along fine down here," he said.

President Carl Ell, XI, of Northeastern University, Boston, conferred degrees on 1,361 graduates this June and later he reported that N.U. anticipates an enrollment at the beginning of the college year 1955-56 of nearly 13,000 students, practically the same as last year's record high enrollment. "We are in a better position than ever," says Carl, "to serve our student body, for the Forsyth building, formerly committed to engineering service for the Sylvania Company, has been remodelled to provide 18 classrooms, as well as some laboratory and office space." Meanwhile work is well under way there on a new \$1,500,000 classroom-laboratory building, due to be finished by the fall of 1956 — the third new academic to be erected since 1950. During the summer there were 32 teen-age conservationists and foresters hard at work in Rutland, Massachusetts, at the Worcester Natural History Society's F. Harold Daniels (VI) School of Forestry and Conservation.

Did you "catch" General George Kenney, I, on the Dunninger Show (NBC television) Saturday evening, August 6? When asked by Dunninger what stood out in his 35 years of Army service, George replied: "The importance of the man." He added that a general must keep up the morale of his troops at all time. Dunninger's stunt was to "mind-read" the exact number (35,155) of New York City contributors to date of the Arthritis and Rheumatism Foundation, of which George is president.

Henry Martin '07, who took some of his work with us and enjoys attending our reunions when possible, invited Sara and me to be his guest at '07's off-year reunion at Oyster Harbors in mid-June, but the fact that Sara was, as usual, spending the summer at our "Wellsweep" in Cornish, Maine, and I had a conflicting convention of the New England Association of Commercial Executives at Magnolia, Mass., made it impossible for use to accept.

At the First Annual M.I.T. Alumni Officer's Conference, September 9-10, Chet Dawes '09 told me that M. J. Lowenberg, VI, had retired from Stone and Webster, Inc., and is now doing part time teaching in electrical engineering at Franklin Technical Institute, Boston. Upon my return from that enjoyable event, I found an air mail letter from Frank Osborn, III, stating that he was returning to the States from Chile, so we should use Box 165, #1 Reg., East Walnut Road, Vineland, New Jersey, as his mail address till further notice.

Lloyd A. Patrick, IV, with whom we have been out of contact for some time, has been "discovered" as an architect

and designer with Thomas M. James Company, Boston, and is living at 34 Moody Street, Chestnut Hill 67, Massachusetts — while Herbert P. Joyce, V, another "lost sheep," is now at 100 Terrace Street, Winthrop 52, Massachusetts. Captain Ralph T. Hanson, USN, XIII-A, writes that he has moved from Charlotte, South Carolina, to P.O. Box 35, Arden, North Carolina and Colonel Henry C. Davis, VI, now is at 2021 Bayside Avenue, Corona del Mar, California.

Well, mates, before these notes reach you, our class dues bills will have been issued and you all will have been given an opportunity to express the degree of probability of your attendance at our big 45th Reunion at Snow Inn, Harwichport, Massachusetts. We hope to have a record-breaking attendance at this big occasion and please be sure you leave no stone unturned in your effort to be among those present. And if you are in or near Cambridge on the 7th day of the 11th month, come over to Walker Memorial that evening for our annual "Seven Come '11" class dinner. That's it for now. — ORVILLE B. DENISON, Secretary, Chamber of Commerce, Framingham, Mass. JOHN A. HENLIHY, Assistant Secretary, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

Alumni Day at the Institute was a pleasant occasion with the following members of the class either at the luncheon or dinner. Harvey S. Benson, James A. Cook, Albion R. Davis, Page E. and Mrs. Golsan, Arthur C. Hildreth, Jerome C. Hunsaker, John H. Lenaerts, Harold G. and Mrs. Manning, Frederick J. Shepard, Jr., Cyrus F. Springall, Erwin H. Schell, John C. Freeman, Edwin C. Holbrook, L. T. Cummings, and Fred W. Barker.

The Malden News had the following to say about Leonard T. Troland, who recently passed away. After graduating from the Institute in 1912 he took up the study of psychology under Hugo Munsterberg at Harvard, obtaining degrees of A.M. in 1914 and Ph.D. in 1915.

As Sheldon Traveling Fellow he spent the following year in the Nela Research Laboratory of General Electric in Cleveland, where he undertook his first researches in physiological optics. He returned to Harvard in 1916 where he investigated telepathy in the psychology laboratory with negative results. His first book, "Nature of Matter and Electricity, an Outline of Modern Views," written in collaboration with D. F. Comstock, appeared in 1917. During the first World War he was with the Navy in the development of submarine apparatus, and as a member of the National Research Council in vision and aviation psychology wrote a learned monograph on "Present State of Visual Science." As president of the Optical Society of America in 1922 he published his "Mystery of Mind" which was followed by "Fundamentals of Human Motivation." He was for many years associated with the scientific firm of Kalmus, Comstock, and Wescott and served as chief engineer of the Technicolor Motion Picture Corp. of California. Troland was noted for being equally at home in physics, physiology, and psychology, bio-

physics and biochemistry. He was also a mechanical and electrical engineer of extraordinary ability. He was always clear and logical but had little of the art of expression. It was said of him that "The theoretical scientists respected him because of his technological achievements while the technologists admired him for his vast fund of theoretical knowledge."

Albert G. Gale for many years chief engineer of the Turbine Department of G.E. in Lynn has retired. He was a pioneer in the design and development of ship's service turbines. In 1950 he planned the turbine-generator set for the high pressure plant aboard the U.S. Navy Experimental Destroyer U.S.S. Timmerman. This is believed to be the highest pressure, highest speed, most compact, lowest weight turbine-generator set built for shipboard use. He is a member of many national societies and plans to make his home in Boxford, Mass.

A postcard from John Hargraves and Jesse Hunsaker who took the around the world cruise on the *Coronia* last Spring, report a most interesting trip.

Ed Holbrook retired last Spring from the U.S. Steel Export Company but was immediately called back on a consulting basis to finish some special work for them which will take another six to nine months. He plans to live in Florida as soon as he can get untangled from the daily grind.

Jerry Hunsaker is in the news frequently. He was the principal speaker at the M.I.T. Club of Rhode Island at a recent meeting. General Carl Spaatz speaks of Jerry as follows: "No one man has made a greater contribution to aeronautics than Dr. J. C. Hunsaker, chairman of the NACA committee since 1941."

Joe L. Champagne is still teaching dancing at a Specialty School ever since leaving the Institute. His son who has an M.A. degree at Harvard has taken over the major portion of Joe's work so he has more time to play. He was in Europe three months last summer and plans similar vacations every year. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LESTER M. WHITE, *Assistant Secretary*, 4520 Lewiston Road, Niagara Falls, N. Y.

• 1913 •

Well, here we are again after a lapse of several months of inactivity as far as class notes to our readers and critics, but we are like a June bride with something old and something new. Our classmate John P. Coe has been honored by his colleagues of the Naugatuck Chemical Division of the United States Rubber Company at a testimonial dinner. He has been an outstanding expert in the manufacture of synthetic rubber products both for his Company and our Government. John received a degree in Chemical Engineering at M.I.T. as well as several other degrees from the University of Kansas and Washburn College. Due to his distinguished career, Washburn College conferred an honorary doctor's degree on Coe. 1913 congratulates our distinguished classmate. We learned with the greatest regret that another of our outstanding members of the Class, Ernest W. Davis died of a heart attack on January 11,

1955. Ernest graduated with our class and was associated with the Simplex Wire and Cable Co., ever since. He worked up very successfully from an electrical engineer to the Office of Director of Engineering for the Simplex Co. Through the years he held many offices and was a member of many engineering organizations both in this country and abroad. We offer our sincere sympathies to John's wife, Edith; his son Richard L. of Needham; a sister, Mrs. M. A. Ross of Everett, and four grandchildren.

It was pleasant hearing from Victor Mayer and I quote "Have designed and built many run of the mill structures — but now I am a glamour boy, just because I am building the new Kansas City Athletic Stadium. Even the elevator men in my building, who never noticed me before, greet me most effusively now." It is noted from both the Boston Herald and Traveler and the New York Herald Tribune that our boy Joseph H. Cohen is still making the headlines. Yes, last winter the General Foods Corp. made Joe a Vice-President and Director of the Corporation and to quote Fred Murdock "What a man he has proven to be, in science, finance and labor relations." That goes for all of us, Joe. It was a pleasure to hear from George Dempsey and quote "There is not much to report. I have been in the shoe manufacturing business practically all the time since leaving Tech and right now, am sort of semi-retired, looking toward retirement. I note a great many of our classmates are retired or about to be retired, and they talk about their grandchildren. Well, there is one thing I have done — I probably am the proud father of the last baby. My only child, Dina, is age twelve, so when the classmates of mine talk about their grandchildren, I must have been a child prodigy in the class, being so young." Well, we have finally heard from William Guild, now the Director of Education Program, The Science Center, St. Petersburg, Florida. He forwarded to us a copy of *Science*, elaborating on the wonderful work he is accomplishing for the youth of our country and to quote "Some day I hope 1913 will be proud of me. I also help the youngsters get jobs and scholarships. My latest project for the kids is solar heat experiments." Well done Bill. That is a far cry from the 38 years in real estate business in Newton, Mass. F. C. Weiss sent a check but no news. Will the wonders never cease. Bill Brewster startled us with a report of his activities. As Chairman of the Board of the Plymouth Cordage Company he is as busy as he was as President, does considerable travelling and was just back from the Pacific Coast. Bill dined and talked to one of the groups of the Sloan Fellows at M.I.T. We know that this group benefited from his words of wisdom. We quote Bill "Maybe I ought to warn the competing members of the Class that we have not rested on our laurels insofar as the score of grandchildren goes. Present count is 13, with two expectancies. I hope come our 50th Reunion, we'll have more competition." What, with that head start? Kenneth Franzheim favored us with a check but no news. Well, we will forgive you Ken, this time for we still treasure

that album you sent us of your accomplishments. Dave Stern sent in his dues with "Hi, Phil. No news." Ralph Rankin writes "Mrs. R. and I are well and happy, living the life of Reilly in Sarasota." He further states "The only thirteeners we have seen down here are Gene and Mary Macdonald who were down last Spring, and Jack and Mary Coe who paid us a visit this February. I would like to see more classmates." Alfred Katz has joined our loyal group of correspondents with some very welcome news. Al spent 22 years with the Colloids Inc., travelling on a fifty week schedule from Montreal to Mexico City. He also has retired as Vice President to a life of semi activity as a volunteer organization worker. He has also been married. Congratulations for your latest accomplishments. His major occupation at the moment is steering and developing the textile and chemical courses given at the Textile Center, Evening Extension Division, Baruch School of Business Administration of the City College of New York. His most recent interest is the chairmanship of the Placement Service of the American Association for Textile Technology. All of these projects give Al a very contented business of living fully. Stan Parker has retired to the sunny clime of Santa Barbara after 40 years in the steel business. His activities include gardening, metal working in copper and silver, together with membership in four clubs, allows him only one major indoor sport, evening bridge. Stan expects to see us all in 1963. Why not come to our Reunion in June 1956? George Bakeman, The Oaks, Hanover, Va. has finally "taken his pen in hand" and writes: "After graduation and about a year's experience in the State Department of Health in Boston, I signed up with an American Red Cross typhus mission for work in the Balkans in 1915 and 1916; subsequently I was appointed by Secretary Lansing as a special assistant to the American Ambassador to Russia, where I experienced the tremendously exciting years of 1916, 1917, 1918, and 1919. In 1920 I was Deputy Commissioner of the American Red Cross in Poland, and later Director of Operations in Austria during 1920, 1921, and 1922. With the termination of Red Cross Work, I was appointed Director of the United States Shipping Board interests in Austria for the years 1923 and 1924, and in 1925 I transferred to Paris, France, as Administrator of the Rockefeller Foundation European Office under a former M.I.T. Professor, Selskar M. Gunn, '07. In 1939 war clouds again burst and I was forced to close up shop when the Germans marched into France in May, 1940. After a few months there, I was appointed Assistant to the President of the Medical College of Virginia, where I have been stationed ever since, except for eighteen months' leave of absence when I went to France in 1945 after the liberation, as Director for American Relief for France. I have been very happily married since 1919 and enjoy the pleasures and blessings of three married daughters and six grandchildren. Our home is at Hanover Court House, Virginia, just north of Richmond, and conveniently located at or to the main highways No. 1 and No. 301. It would be a

pleasure to see any of my old M.I.T. friends there who may be passing this way." George, why did you hesitate to write before? That is real and varied news. Charles Brown also comes up with some newsy notes. He has seen two of our standbys, namely A. L. Brown who like Charles is a square dance addict. He also relates seeing Frank Archard who was still using a cane. We shall interrupt Charles' news by informing you that Frankie had an unfortunate accident while relaxing at home one evening. He fell injuring one leg very badly, but after several months of his wife's good care and complete rest he has recovered, yet he can only work now 18 hours a day. Frankie and Florence spent a very enjoyable afternoon with the Capen family (that is how we felt). Come over more often. Charles Brown is still calling for those fun-making square dances. He reports that he and his charming wife are in good health and having fun. They are looking forward to the next Reunion. So Charles, get out your latest records and put on your dancing shoes for next June at Falmouth. Charles also relates that Herb Shaw has recovered nicely from a serious eye (double cataract) operation and now is collecting clocks. Well, Herb, set your clocks for June 8, 9, 10, and 11, 1956. A. M. Mutersbaugh sends a check but no news.

We learned from Fred Murdock that our distinguished classmate, Lester F. Hoyt passed away last December after a long illness. These are the things which are hard to take. Fred Murdock amends that Lester and he spent many pleasant hours during Lester's affiliations at Larkin Co., at Buffalo during a period of over seven years. Fred reports receiving the book of sketches of Ken Frazheim's architectural accomplishments in Texas, Mexico, New York, and Washington. If any of you classmates have not seen this outstanding Design-Cyclopedia of Buildings, you should not fail to examine it at our next Reunion. Fred Stillman who was retired at the ripe old age of 65 has proven that the average Tech man is still capable of entering a new field of endeavor and enjoying a successful career. Fred has a very outstanding television business in Carteret, N. J. besides completing a four and half month course of RCA color television in one month. He passed this difficult course with an average grade of 94.44 per cent. We are proud of you, Fred. Keep up the good work.

Well, here is some more current news, although I still have a few other notes which will be entered in the next issue. The M.I.T. Alumni Day, Monday, June 13, 1955, as usual, was outstanding. It always impresses me, and I am extremely honored to be included with such a distinguished group of learned and red-blooded citizens of the great country, U.S.A. Several of the regulars of 1913 were present at the luncheon in Dupont Court, as well as a few who have not honored us with their presences lately, including: Prof. Rusty and Charlotte Sage; Tom Collins, wife and daughter; Prof. Al Townsend; Pete and Mrs. Haynes; Frank Archard; Ed Cameron; Bob Weeks; Jack Horner; Warren Glancy; and Phil Capen. The morning conference

and recent films about M.I.T.'s current educational and research work were both instructive as well as interesting. The cocktail party at the Statler provided for the usual good fellowship with our own classmates and many other friends in other Classes. The Annual Alumni Banquet was inspiring and a true example of the Technology Spirit, but that *usual seat*, so well filled by our deceased President Karl Taylor Compton was noticeably empty. President James Killian and the guest speakers as always made us proud of their knowledge and understanding of world affairs. The usual stein was missing and the beer, but we all will cherish the Wedgewood plates which portray various scenes of M.I.T. which were presented to each of us. The 1913 delegation numbered 13. All requested that an interim reunion be held next spring in June and are herewith listed: Pete Haynes; Al Katz; A. L. Brown; Burt Cushing; Bob Weeks; Bill Newt. Eichorn; Phil Terry; Chas. Thompson; Tom Collins; Lester Gustin; Ed Cameron; Frank Archard; and Phil Capen. Pete Haynes reported he has seen Gene MacDonald and Bob Nichols last Winter. Also, that Arthur Carpenter was honored on his retirement by his company, B. F. Goodrich and his many friends with a suitable gift and banquet on March 25, 1955 in Akron, Ohio. Your scribe talked by phone with Fred Murdock last week. Fred is enjoying life, that is up to 6 P.M. Then he goes out of circulation. Also, we talked to Neva Ready and she states Bill or "Pop" is in very fine spirits and returning to good health. Yours truly and fair wife spent a very pleasant Sunday afternoon with Nate Poor at Essex where he is summering with his charming daughters. Nate drove up from St. Petersburg alone and had a rather tough trip. After a thorough check-up at the Lahey Clinic he was declared fit. Little can we express our grief which reached us after the last issue of the Technology Review, that Nate's charming wife passed away last Fall following a short illness. We hope you fortunate men will join with me in extending to Nate our heartfelt sympathy. Well, you fortunate classmates who attended our Fortieth Reunion at Oysters Harbor Club in 1953, do you remember you instructed your Officers to arrange an Interim Reunion? Let's go. Your Committee has met and there will be a 1913 Reunion at Coonamesset Inn, Falmouth, Mass., June 8, 9, 10, and 11. Alumni Day will be held at Cambridge on June 11, 1956. Shortly, you will receive a complete program and the details from our chairman, Bill Mattson and company. See you then. Start saving those pennies.

Another great event in my life transpired last Friday, September 9, 1955. The Alumni Association of the Massachusetts Institute of Technology together with the support of President James Killian and the cooperation of the Faculty and Corporation invited over four hundred officers of all classes to attend the First Alumni Officers Conference on September 9 and 10, 1955 at Cambridge. You were represented by Charles Thompson, William Mattson and George P. Capen. This conference was most beneficial to all who attended (the entire program is

published in this issue of the Technology Review) and it brought us all (who helped) with the spade work) to a better understanding of the aims and workings of our Alma Mater. We were informed of the Educational Progress at M.I.T.; the Research Progress at M.I.T.; and the Workings and Organization of the Alumni Fund. Further, we attended a most enjoyable reception at the President's Home. A most lavish buffet dinner was prepared for us at the Walker Memorial followed by a sterling address by our beloved President Jim Killian. Saturday, June 10th was the Students' Day. We were treated to a worthy presentation of Undergraduate Student Government at M.I.T. Following this wonderful demonstration, many of the Class Officers visited some of the research laboratories, which was a revelation to many of us. The final act of hospitality was a very bountiful luncheon at the Faculty Club and where the Conference was reviewed by Edward L. Cochran '20, Vice-President for Industrial and Government Relations. I am glad I am a Tech Man, aren't you? — FREDERICK MURDOCK, Secretary, 88 Rumstick Road, Barrington, R.I.; GEORGE P. CAPEN, Assistant Secretary, 623 Chapman Street, Canton, Massachusetts.

• 1914 •

The publication dates of *The Review* always make the last bit of spring activity the first bit of fall reporting. Alumni Day was the usual gay affair, although your secretary noted that through retirement and death the list of Fouteeners attending becomes shorter, just as our Class luncheon and dinner tables move ever nearer the front row. Because of the smaller number attending, we did not have our own private meeting this year but joined the general alumni group at the Hotel Statler in the preprandial, jovial get-together. Those attending one or more of the Alumni Day events were Crocker, Derry, Fales, Leigh Hall, Hamilton, Mayo, Morrill, Peaslee, Gus Swift, Trufant, Harold Wilkins, and your secretary.

During the summer your secretary was passing near Portsmouth, New Hampshire, so he dropped in to see Dana Mayo. Dana, who has retired from active business, has an exquisite house and flower gardens facing on Portsmouth Harbor. In the summer Dana and his wife keep very busy maintaining these beautiful gardens.

Charlie Fiske received a letter from Chee Sing Hsin telling that he had been obliged to move from Tientsin, where he was with the Tungku New Harbor Construction Bureau, to Taipei, Taiwan (Formosa). In spite of his moving difficulties, Hsin managed to be counted among those supporting the Alumni Fund.

The guest speaker at the June 2nd dinner of the Newcomen Society at their meeting in San Francisco was our famous classmate Donald Douglas. Don told of the development of the aircraft industry, particularly as represented by his own DC designs.

Here in the East, Trufant makes the news about as often as Don Douglas does the national news. Trufant, one of the best known cranberry growers of the Cape Cod area, is quite an inventor on the side. He has a low-head pump for flooding or

draining bogs, a special sluiceway, and a cranberry hoop. The July 30th Cape Cod Guide says that this hoop is not made of cranberries, but rather is a simple and ingenious device for quickly determining how many barrels of cranberries the bog will yield. The device is based on random statistics and the integral of dx/da .

Bob Moorhouse, retired and living in Bryn Mawr, Pennsylvania, has spent his first summer in England and Scotland, traveling through the countryside by auto. I wish space permitted quoting Bob's letter in its entirety. If Bob wanted to pick up a little retirement money, your secretary would suggest that he write for a foreign travel agency. Bob and his wife certainly had a wonderful time and saw much of the country not included in the usual travel tours.

It was just less than a year ago that Herman Affel took over the post of Class Agent, vacated by the death of Ross Dickson. He has done a truly marvelous job, and your secretary bespeaks for your continued support of Herman's work on the Alumni Fund. Your secretary is very grateful also to Herman for carrying on these notes during the two three-month absences of your secretary while traveling in Europe, Asia, and Africa.

The name of Harold Bent has frequently appeared in the news in connection with tests of the giant aircraft carrier Forrestal. Bent is Vice President of the Newport News Shipbuilding and Dry Dock Co. and is in charge of the acceptance tests of this carrier.

After a most illustrious technical and business career, another of our classmates entered retirement July 31. Roger Williams has spent 37 years with the E.I. duPont de Nemours and Co. and in recent years has been a Vice President and member of the Executive Committee. He was adviser on the Company's research activities. Among his accomplishments were important contributions, including the production of synthetic ammonia and synthetic methanol, and also his guidance of the DuPont Company's venture for the Government into Atomic energy. He was in charge of the manufacture of plutonium at the Hanford Engineering Works. For this activity he received the Presidential Medal for Merit, which is the highest award bestowed upon a civilian. Last January Williams received the Perkins Medal of the American Section of the Society of Chemical Industry for outstanding contributions to many phases of industrial chemical development.

Somewhat belatedly, word has just been received of the death on November 21 of last year of Armin L. Pitz. He was born at Manitowoc, Wisconsin, in 1888. After graduating from the University of Wyoming, he entered M.I.T., where he graduated in Naval Architecture. His thesis dealt with the stability of life boats. Pitz had only recently retired from active business. He is survived by his wife, three daughters, and a son.

Anning S. Hammond is another of our classmates to have reached the retirement age. Hammond has been on the Pacific Coast ever since his return from World War I and has been associated with the paper industry. At the time of his retirement he was manager of the Gumming

Division of the Crown Zellerbach Corp. at North Portland, Oregon. Although he is being retained as a consultant, Hammond has moved his residence to Palo Alto, California.

On September 9 and 10 there was held at the Institute what was called the Alumni Officers' Conference. Class and club officers, class agents, and honorary secretaries were the principal attendants. Problems pertaining to the Institute's growth, finances, and allied problems were discussed with profit to all attending. Charlie Fiske had planned to attend, but, unfortunately, a business appointment at the last minute prevented his coming. Art Peaslee, representing Hartford, and your secretary attended. — H. B. RICHMOND, Secretary, 275 Massachusetts Avenue, Cambridge 39, Mass.; H. A. AFFEL, Assistant Secretary, 120 Woodland Avenue, Summit, New Jersey.

• 1915 •

Want your picture taken? I'm the one who can take it now with the splendid Kodak, with complete photographic set of flash equipment, a supply of bulbs and color film, a viewer, a projector, and a screen which the Class gave me at our Reunion. It was an unexpected gift, and my warm and friendly thanks to you all. My first effort was some shots of the M.I.T. buildings which have come out very well for a beginner, so when we all get together again, I'll have some worthwhile pictures to show you.

Our Fortieth Reunion was voted — and proved itself — to be the best Reunion we've ever had. Eighty-two classmates and three guests attended — a remarkable showing exceeded only by our Twenty-fifth.

Here they are: Ken Boynton, Jerry Coldwell, Bill Brackett, Larry Quirk, Phil Alger, Doug Baker, Everett Brigham, Whit Brown, Evers Burtner, Bur Swain, Doug McMurtrie, Hen Berg, Max Woythaler, Clarence Hale, Charlie Williams, Hank Marion, Frank Parsons, Ted Brown, Louie Young, Clive Lacy, Jac Sindler, Cliff Sifton, Carl Dunn, Ralph Curtis, Maurice Brandt, Fred Waters, Ted Spear, Wally Pike, Herb Whitcomb, Speed Swift, Bill McEwen, Loring Hayward, Ed Whiting, John Homan, Archie Morrison, Chet Runels, Alan Dana, Henry Daley, Otto Hilbert, Bill Spencer, Wink Howlett, Vince Maconi, Parry Keller, Reggie Foster, Wayne Bradley, Alton Cook, Sam Eisenberg, Al Sampson, Gardner Wilson, Larry Landers, Sol Schneider, Larry Bailey, Easty Weaver, Don Hooper, Marshall Dalton, Jim Tobey, Henry Sheils, Ralph Hart, Herb Anderson, Gil Peakes, Bob Warren, Joe Livermore, Charlie Norton, Bob Mitchell, Herman Morse, Abe Hamburg, Ben Neal, Azel Mack, Pirate Rooney, Ed Sullivan, Ed Walker, Bowman Atkins, Allen Abrams, Arthur Bond, Orton Camp, Frank Murphy, Harry Murphy, Nelson Stone, Chris Wolfe. Guests: Jim Hoey '43, Gene Eisenberg '43 and H. Eisenberg '52.

The success of this Reunion was due to the generous, unselfish and tireless efforts of all the committeemen who so readily and willingly contributed their time and effort and worked so effectively together for our 40th reunion.

We owe a great deal to the underwriting committee, a group of fellows who modestly wish to be anonymous but whose advance contributions assured us no financial worries.

Then Ben Neal and his "loot" committee loaded the boys down with many valuable and attractive gifts to take home. Weare Howlett, Hodgman Rubber Company, an assortment of colored rubber bands; Louie Young, Gillette Safety Razor Co., Father's Day razor with blades; Alan Dana, Kerite Co. roll of friction tape; Frank Scully, Scully Signal Co., auto exhaust whistle; Otto Hilbert, Corning Glass Co., glass ash tray; Carl Wood, Stone & Forsyth Co. Inc., a large printed paper bag to carry home the loot; Ben, himself, from his Norton Laboratories, Inc., compacts for the ladies; Ted Brown, shaving lotion and after the Reunion, Jac Sindler, Spir-it, Inc., mailed each man a beautiful molded red plastic bowl with a sterling silver inlay around the outside, commemorative of the Reunion and listing the courses we took at Technology. We've had many comments on this bowl and I am sure Jac would be glad to hear from any of you fellows. His address is: Spir-it, Inc., 115 Center Street, Malden 48, Mass.

"Admiral" Bill Brackett ran down from Boston on Friday on his yacht with Ed Sullivan and Jim Hoey '43 as crew. They looked a little the worse for their rough voyage down but were able to take about twenty-five men out for an all-day cruise on Saturday which was delightful. Sunday, we had a shore dinner at Poppansett Inn, a little farther down the Cape, and this was really good eating all the way from the steamed clams to the watermelon. A number of us stayed over Sunday night and watched a travel show of Herb Anderson's pictures from his recent South American trip. You know the usual details that go with a Reunion like this but I must confess this was particularly enjoyable. Several men whom we had not seen for a long time were with us and it was pleasant and nostalgic to renew old friendships. Monday, we visited around M.I.T. and at four o'clock went to the cocktail party which Barbara Thomas and Al Sampson put on at the Algonquin Club in Boston. Virginia Thomas, as sweet and charming as ever, came up from Washington, to share hostess honors with her mother, Barbara, and they did a commendable job in making all the ladies feel comfortable. We thought our Reunion on the Cape epitomized the height of everything, but this cocktail party with Al, Barbara and Virginia in charge, zoomed us into the stratospheric area of superlatives. The comment most often heard was "I've never seen anything like this Class." We then went on to the Alumni Dinner at the Statler which gave us this record attendance: Allen Abrams, Herbert Anderson, Lawrence Bailey, Mr. and Mrs. Henning Berg, Mr. and Mrs. Kenneth K. Boynton, Whittemore Brown, Orton Camp, Everett Coldwell, Mr. and Mrs. Henry Daley, Marshall Dalton, Alan Dana, Mr. and Mrs. Carl Dunn, Viking Enebuske, Donald Hooper, Parry Keller, Bernard Landers, William McEwen,

Douglas McMurtrie, Henry Marion, Archibald Morrison, P. J. Munn, Mr. and Mrs. James Neal, Waldo Pike, Albert Sampson, Solomon Schneider, W. A. Swain, Herbert Swift, Robert Warren, Mr. and Mrs. Frederic Waters, Mr. and Mrs. Edmund Whiting, Christian Wolfe, Carl Wood, Mr. and Mrs. Max Woythaler, Ralph Tiffany, Fanny Freeman.

A key giving the list of names of the men in the class picture was mailed with Jac Sindler's bowl. If anyone has an extra class picture please be good enough to return it to me.

Virginia Thomas wrote from Washington: "I don't know what to say — you are all so wonderful. I was overwhelmed by your invitation to the cocktail party and now that I've returned I don't know where to begin to thank you. This Class of 1915 certainly is very fine, with an unusual spirit. It was grand to be with you all and again many thanks to 1915."

Herb Anderson: "In view of the outstanding success of our Fortieth Reunion, I am not going to let another day pass without commenting on the wonderful job that you did with your associates in Boston. Every moment of the time I spent in New England between Friday afternoon of last week until we all sang the Stein Song on Monday night at the Statler was most eventful. At the cocktail party at the Algonquin Club I did feel that some of the folks wondered why Alice could not have been in attendance, and I can only say that while I may take a few days out of my life every five years to appear on the light side, the rest of our family preserves a balance with her activities in the other direction. Frankly I was particularly intrigued with your self-possession in refraining from illustrating your superb talents in story telling, and with this as an example, you may even look forward to my carrying a copy of the Old Testament with me for our next reunion five years from now."

Bowman Atkins: "This is just a note to express to you and our classmates my deep thanks for the 1915 party down at Coonamessett. I enjoyed every moment of it, saw and talked with school chums of fifty years ago and saw some of their pictures in the class movie, more or less as they looked at that time. The whole business was a continuous thrill to me from start to finish."

Bill Campbell: "I am sorry I could not be on hand to help at the Reunion celebration. Glad to know that the party came off in good shape. . . . Give my best to Henry, George Rooney, Frank Scully, and all the rest of the crows. Behave until I see you."

Orton Camp: "I want to add my word of appreciation to you and your committees for all the work you did for the Reunion which was a great success. I am writing to Barbara Thomas to thank her."

Sam Eisenberg: "I am very glad the Reunion was a great success and that you were not faced with financial problems. As far as I am concerned, I am still plugging along and there is nothing to report unless you want to take the trouble to check the Feature Section of the Boston Sunday Globe which has an article about me and M.I.T." The article Sam refers to

was an elaborate story with pictures describing Sam's election as president of the Massachusetts State Association of Architects. An outstanding honor and fitting reward for Sam's devotion to this work. Congratulations and success, Sam.

Ralph Hart: "I have a fairly good collection of Reunion portraits in color of most of the Class. However, they are stereoptican slides and they would do you no good unless you have a stereoptican viewer or projector. I shall be glad to show them to anyone who will contact me in the city or at the New York Class dinner." I hope Ralph will bring these to the New York City Class Dinner next winter.

Otto Hilbert: "You and your committee are to be congratulated on the very enjoyable reunion, I know such an affair takes a great deal of planning and time. It was so nice to meet so many of the Class again. Hope you and Fran will find it convenient to drop in on us again in Corning."

This was the first reunion that Gabe Hilton has not attended so we sent him a picture of the Class and Tess answered: "Just a note to thank you for sending the picture of 'you all' at the Reunion. It seemed strange not to have Gabe in it but maybe he can get to Boston next June and see you. I did and said what I could to have him join you at the Reunion but somehow he didn't feel up to it."

Ben Neal: "I guess I could say I have had kind of a busy month. Lauretta and I had a grand time at the Reunion and all of the festivities that went with it, and we wouldn't miss it for anything in the world. I really had a lot of fun out of that picture of you, although that so-and-so Louie Young, certainly gummed me up in the proper acknowledgement." Ben refers to a life sized picture of me framed in an easel stand which he and his gang got together as a gag and presented it to me at the Reunion with the feeling that M.I.T. should enshrine it in the archives as a recognition of 1915. Louie Young was called on to accept this for the Institute with appropriate remarks but in coming up to the table he slipped on the floor and nearly fell flat on his face, and as Ben says, "gummed up the works."

On personal stationery significantly headed in distinctive type "Elbow Bend," Al Sampson wrote his Reunion remarks: "The enclosed will, I hope, give some deserving classmate one day and night with the 1915'ers."

Sol Schneider: "Ann and I wish you and Fran the best in your new home. We had planned to stay a few days longer in Boston on our return from our wanderings in New England and get in touch with you but we hastened home — and just made it — when we got the news of the floods in Connecticut and Penna. During our travels in New England we stopped in to see Wayne Bradley at Forty Acres Inn, but unfortunately we missed him. He has a very nice place. . . . I have not as yet seen any of our classmates since our wonderful Fortieth, but expect to see some of them at the local Alumni meetings this fall. I usually see Larry Bailey, Ed Whiting and Herb (Andy) Anderson at some of these dinners, and occasionally Henry Daley and Dick Bailey. The For-

tieth was one of the best Reunions we've had, and what a wonderful turnout! The cocktail party was great and a chance to see some of the boys who could not get to the Cape, as well as some of the ladies. It was good to see them again. Once again Ann and I wish you and Fran the best in your new home and close with kindest regards to you both."

Charlie Williams: "Many thanks for the Reunion picture. I thought it was a fine looking group. We ain't any younger but we still look purty frisky. We've been on Long Island for the summer and for one week in East Orleans with my children. There's nothing like the Azel Mack touch and again let me congratulate and thank you for a splendid job." Bob Warren: "It is evident that a lot of work went into the planning as well as the execution of our Reunion plans. You have probably anticipated my suggestion that many of us could use some identification scheme for the group picture. Memories aren't so good at our age, and furthermore, there were a fair number of fellows that I never got a chance to talk to during the Reunion."

Some time ago in Reunion correspondence Dave Hughes said that he and Brute Crowell would try to push their wheel chairs to our Fiftieth Reunion and in answer to my suggestion to Dave to get roller bearings he said they were getting in shape and plan to use a bicycle. So we'll look for them. Gilbert Peakes: "Regarding the Reunion, I speak as one who enjoyed every minute of it, without having to do any of the work, and you should be heartily thanked. I had to leave before the clambake was digested, but I hope there was some recognition there of your work, before the gang broke up. At the Reunion, I was impressed with Jac Sindler's nut bowl, and licked my lips at the prospect of having one. Jac said they were all ready, so I've been watching for mine."

Alfred Hall has been seriously ill at his home in Saco, Maine for a long time but keeps his interest in Class affairs so we sent him a class picture and a signed card, which Alfred acknowledged. "It was a mighty nice thing for the boys to take time out from the Reunion activities to let me know that I wasn't forgotten. Both Helen and I appreciate being remembered by the Class and wish we could thank each one of you. As you know we are living on the fringe of one of Maine's vacation spots and would be glad to see any of the boys who may find themselves in this neighborhood. Our daughter, Priscilla, and her husband are living in Newark, Delaware where he is working for Dupont, and Priscilla is secretary to the Math Dept. at the University of Delaware." Alfred's address is 19 Locke Street, Saco, Maine.

Speed Swift: "We sure did have one of the very best Reunions yet! Hope the Class, as a whole, will keep up such a splendid attendance record." Incidentally, the Reunion may have been too strenuous for Speed for during the first week in July he had some surgery at the New London, New Hampshire hospital. I talked with him a couple of times while he was there and wrote him, and although

the surgeon's scalpel was dulled beyond further use by Herb's tough old hide, Speed has completely recovered and is back in circulation.

There were a few last minute cancellations and although we deeply missed these men we appreciate the following pleasant sentiments from them:

Howard King wired from New York: "Very sorry I cannot be with you. Things are not going too well on the six day tunnel job. All bosses are away at Class Reunions or seeing sons or daughters graduating so I am stuck. Best wishes to all of you and especially to the best class secretary ever." A letter followed: "I was genuinely sorry that I could not be at the Reunion but subaqueous tunnel jobs are always tough. It so happened we were moving the tunnel out from the muddy bank of the Hudson at Weehawken to under the channel and we got into trouble which was costing the contractor, Mason-Johnson-MacLean \$50,000 a week. As I am consulting engineer for the contractor and the only one around who had a responsible position when the other tubes were built, I felt duty bound to stay on the job. We're out of trouble now. Pirate Rooney will confirm what I said about tunnel shields."

Bob Welles: "I wish I might be there with the rest of the Class for the Reunion. The M.I.T. group out here (Altadena, California) are a very up-and-coming bunch that I have taken quite an interest in. We have fairly frequent and very interesting meetings, and to my way of thinking there are few institutions doing a more worthwhile job than M.I.T. and none more deserving of support. If it weren't so far back to Cambridge from Southern California I would try to make it. Mebbe for our 45th. In the meantime we plan to take a little cruise in our boat down the coast and up into the Gulf of California to La Paz. Good luck to you all at the Reunion."

Phoebe Proctor: "Wink Howlett, Larry Landers, Ben Neal, Ken Boynton, Frank Scully and yourself have all written me about the Fortieth Reunion. It certainly has every indication of being a very fine affair, and perhaps the last time that the Class will be together as a representative body. I wish you would tell the 'boys' who have written me about the Reunion how much I appreciated the fact that they remembered me sufficiently to write me about coming to it."

Ken King: "I regret I cannot be with you at the Reunion but it is unavoidable for two reasons. First, it is an absolute necessity that I be in Michigan at our farm the first two weeks of June and second, I have been having some trouble with my eyes which makes travelling very inconvenient at this time. I talked to Dr. John Duff a few days ago. He has been quite sick in the hospital, but is now recovering very nicely. However there is no chance of his attending the Reunion. We are leaving next week for our farm in Michigan and will remain there till September. Our address there will be Rex Terrace, Adlen, Michigan. Say 'hello' to all the gang and with many regrets, I shall not be able to attend the Reunion." We all wish Ken a successful

recovery from this eye trouble. Leland Clark: "I have just had a rather bad fire at my summer home at Chatham, Mass. and this weekend I will be very busy with contractor, adjustor, and others so I will be unable to come to the Reunion as I had hoped. Sorry. Best regards to all the Class."

Henry Sheils called on Henry Dowst at Short Falls, N. H. to urge him to come to the Reunion but received this letter: "I was surprised and pleased to see you and I am sure if any one could persuade me to attend the 1915 Class Reunion, your visit would have succeeded. Indeed if I had a fraction of the energy I had when at M.I.T. I would not need to be persuaded. However, after you left we went to Manchester and saw my son Robert (the doctor). He said I should not chance going to the Reunion. Remember me to my classmates and extend my regrets to them." We do hope that Henry is feeling much better.

Carl Wood: "I am afraid I won't be able to take in the Class Reunion as it looks now. I was away last week on my usual Spring vacation fishing trip and came down with an attack of ptomaine due to eating bad meat, and I feel very washed out. I hope that by Monday I will be able to go to the all-day outing at Cambridge. I am very disappointed as you can well imagine, as I was looking forward to that event. Please express my regrets to the Class and wish them all a swell time. Best of luck."

Warren Cowles wired: "Regret absence. Son's graduation from Princeton conflicts. Good luck today."

Peter Masucci wrote to Sol Schneider who had Peter on his follow-up list: "It was nice to receive your letter. Yes, I did receive the literature about the Reunion. Some months ago, I applied for retirement. About two weeks ago, I received a favorable reply, which has naturally changed our plans. I had counted on seeing some of my old pals but since this is impossible, I can, at least wish you luck and an enjoyable time at the Reunion."

This is a good time to thank the area key men who gave so much of their time with detailed reports on soliciting and contacting the men in their respective areas to come to the Reunion. These committeemen were simply appointed by us without asking their consent and everyone agreed to tackle the job and did an excellent piece of work.

Weare and Katherine Howlett announced the marriage of their daughter, Joan Francis to Mr. Verlous Lee White on April 30 at Glendale, California. Congratulations and best wishes from the Class to this young couple.

On August 1 Marshall Dalton moved with the Home Office of the Boston Manufacturers Mutual Insurance Company to its new address 225 Wyman Street, Waltham, Mass.

Sam Berke unfortunately missed the Reunion by being in Europe and we've just received a card from him from Copenhagen, Denmark: "We are having a lovely time in this air-conditioned land; never a warm day."

I recently met Roland Baldrey, an architect, in Boston at Wally Pike's office

where he was doing some construction business with Wally.

In Providence in September I had lunch with Ken Johnson who is now chief engineer for McKiernan-Terry Corporation, Harrison, New Jersey, manufacturers of textile machinery and equipment. Ken was sorry to miss the Reunion but was away on business and hopes to see the gang at the next New York City Class Dinner.

Please note our new address. We have moved from Brookline to an apartment in Cambridge adjoining M.I.T.

Do you like the Notes for this month? Well, you can keep the column going — just "help Azel." — AZEL W. MACK, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

• 1916 •

We are happy to be back with you again for the first in a series of nine monthly columns. We hope in the course of these articles that in addition to keeping you posted on current activities of our classmates we will be able to interest all of you in being at the 40th reunion which is scheduled for June 8, 9, and 10, 1956 — Friday, Saturday and Sunday, at the Oyster Harbors Club in Osterville (Cape Cod), Mass. It's a big one for all of us and we're striving for a large turnout and a grand time for all.

Briefly reviewing Class activities on and following Alumni Day in June 1955, we enjoyed a very wonderful cocktail party at the Statler Hotel in Boston following a very busy day at the school in attendance at Alumni Day activities. Those who were at the college included: Joe and Mrs. Barker, Tom and Mrs. Berrigan, Frank and Mrs. Chandler, Ralph and Mrs. Fletcher, Barney Gordon, Murray Horwood, Al Lovenberg, Shatswell Ober, Doug Robertson, Steve Whitney. At the cocktail party, present were: Tom and Mrs. Berrigan, Frank Chandler, Al Lovenberg, Jim Evans, Dina Coleman, Ralph and Mrs. Fletcher, Dick Hunne-man, Izzy Richmond, Murray Horwood, Steve Whitney, Bud Kaula, Hy and Mrs. Ullian, Shatswell Ober, Joe and Mrs. Barker, and as guest of the class — Ralph Fletcher's son Kennard, Hy Ullian's son Joseph, and Muriel Eustis. The reunion which was scheduled for Tuesday and Wednesday, started for some right after the class cocktail party, as part of the group went directly from the party to the Chatham Bars Inn in Chatham (Cape Cod), Mass. The weather was beautiful as usual, and in the course of the two days, some of the group took advantage of it by driving to Hyannis, Provincetown and other points of interest on the Cape. The golfers were out strong on both days and showed surprisingly good form. The reunion group included: Joe and Mrs. Barker, Hy and Mrs. Ullian, Nat and Mrs. Warshaw, Emory and Mrs. Kemp, Ralph and Mrs. Fletcher, Katharine Casey, Bill Barrett, Jack Burbank, Dina Coleman, Jimmie Evans, George Petit, Steve Whitney and John Woods. Frank Chandler stopped in before our group arrived and left individual miniatures of the Yankee Clipper Ship for distribution. Everyone liked them very much, Frank, and we sincerely thank

you for your thoughtfulness. Also at the desk awaiting our arrival were telegrams from classmates who had planned to attend but who had to drop out because of "complications." These included Tom Jewett, Maurice Holland, Steve Brophy, Bill Drummey, Walt Binger and Harold Russell. At each of the four interim reunions following the 35th, we have had a wonderful time. However, in much of the correspondence received in response to our announcements of these interim annual reunions, there was a definite indication that while many would like to have joined us for the annual affairs they would have to hold off until the 40th. Your year is coming up now, fellows, so don't let it get away from you. Put the dates down on your calendar now — June 8, 9, and 10, in '56 — and don't let anything take priority over that weekend.

In our mail bag, we have this interesting letter from George Allen, which came too late to get into the July issue: "Too many years have gone by without even an acknowledgment on my part of the most cordial invitations and follow-up letters for the Annual Reunions of the Class of 1916, M.I.T. Each year reunion time finds me messed up in our quarterly sales meetings which are attended by our Home Office Staff, Regional Managers, District Managers, and Field Sales Representatives. This June it is worse than usual, — New York on June 6 and June 8, San Francisco on June 11, Chicago on June 15, and New Orleans on June 18 and June 19. The Merchandise function at R.C.A., of which I am a part, may differ from that in many organizations. The job is to determine what a customer will wish to purchase in television at a period two years from now. It has been fun to have been associated with the progress of the art from five inch and seven inch picture tubes for black and white on through to 21 inch color television. I have attended so few reunions that but few will recall me. To those that do, — greetings. To all of you, — a very pleasant reunion." Plan to be with us next June, George.

We note with pleasure that Tom Berigan has opened his office in the Statler Office Building in Boston "for the private practice of law and engineering." Many will recall that Tom was formerly Senior Engineer with the Boston Transit Department and Assistant District Public Works Officer — First Naval District, and more recently Director and Chief Engineer of the Boston Metropolitan Sewerage Works. Congratulations and good luck, Tom!

We have had word from Tred Hine from Huntington Woods, Mich., who has been helping to make Chrysler history in its recent rejuvenation. Phil Baker says that Tred's contribution has not been inconsiderable. Here's what Tred says:

"Received your note and I guess it is about time that I reported so that the other sixteeners will know what has happened to me. I have been with the Chrysler Corporation for 22 years and have handled their new building construction almost continuously. So many buildings over the years that I have lost count. Right now the future building program

is larger than ever.

"I see Cy Guething and Phil Baker once in a while but not as often as I wish. I hope things will work out so I can get to the '56 reunion. At least I am planning on it now." That's what we like to hear Tred, and we'll be looking forward to seeing you then. Along the same trend of thought, Chuck Loomis recently wrote, "I have already put down the dates of June 8, 9 and 10 for next year, and it is going to have to be a very serious matter that keeps me from attending." Our publicity on reunions travels far and wide searching out classmates; one notice brought this comment from Joel Connolly in Taipei, Formosa; "I was with a friend who caught a sail-fish 7' 4½" long about the time our class trip was made."

With all of his many honors and mention in high places, Vannevar Bush still continues to have an interest in the purely technical side of things. The July 15, 1955 issue of *Science* has a little report by him giving further reference to the automatic microtome, described by him in a 1952 issue of *Science*, that cuts and mounts serial sections of imbedded biological specimens on a 35 mm strip of film base. Van points out that this device has been made more effective by two changes in the manner of its use: (i) specimens are mounted in tissue-mat, and (ii) Mylar film is used so that it is possible to stain the sections after cutting.

Reports coming to us from Bridgeport indicate that Dick Berger made quite a sensation, in fact, he was an unofficial sensation at the Barnum Festival parade early in July. The picture in the *Sunday Herald* shows Dick dressed up as Diogenes and carries the following caption: "Diogenes (it's really Dick Berger) finally finds an honest man after searching, lantern in hand, from one end of the Barnum Festival parade to the other. Gov. Ribicoff is in background as singular honor is bestowed on Mayor McLevy."

Your Class Secretary is happy to announce the new "Class Baby" — Samuel Hill Fletcher, who made his appearance around Midday, on Friday, August 12, 1955. He seems well-equipped to shout loud and long the praises of 1916. He is the son of Ralph A. Fletcher who majored in Civil Engineering.

Every once in a while someone in the class gets into big print and in order to let its readers know all about the famous person, a technical magazine gives a nice complete resume of his life story. These magazines are able to get much more detail than we secretaries are able to get by asking questions. A recent event of this kind relates to Joe Barker, and the story about him in the August 1955 issue of *Mechanical Engineering* on the occasion of his nomination for President of the A.S.M.E. for 1955-1956.

Well, that wraps it up for this first issue of the new season. Let's hear from more of you throughout the months between now and the reunion. We'll see you then. — RALPH A. FLETCHER, Secretary, P.O. Box 17, W. Chelmsford, Mass. HAROLD F. DODGE, Assistant Secretary, Bell Telephone Labs, 463 West St., New York, N. Y.

• 1917 •

Representatives of the Class of '17 turned out for Alumni Day festivities last June in good force. The following attended the pre-banquet gathering at the St. Botolph Club: Julian Basche, Ray Blanchard, Penn Brooks, Hal Chisholm, Bill Dennen, Stan Dunning, Art Dickson, Jim Flaherty, Heine Gartner, Clarence Holt, Win McNeill, Al Lunn, Ray Stevens, Tubby Strout, Gerry Thompson and Walt Whitman. Walt Beadle and Russ Wheatley were present at the luncheon and Russ was at the banquet along with those from the cocktail party. Oh, yes, and Lobby was present, of course.

We have continued with our birthday reminders and throughout the summer have received many interesting letters — too numerous to include in this issue. The following are a few of the reports submitted:

Lew Sanborn: "The life sketches which have appeared in the 1917 notes have been most interesting, and I fear that, by comparison, my story will automatically make me a candidate for the most prosaic member of the class. Immediately upon my discharge from the Army in 1919, I went to work for the Converse Rubber Company in Malden, Mass., little realizing that thirty-six years later I would still be with the same company and that, although my desk has been moved and changed many times and the office completely remodeled, at no time have I been situated more than twenty-five feet from my original location. My work, however, has varied considerably including, among other things, cost accounting, supervision of the installation of a wage payment system and the development of an I.B.M. installation. At present, I am doubling as Controller and Purchasing Agent, with an eye still out for new methods and equipment. Also, very early in my career I married the girl whom some of the boys will remember as 'Friend Wife.' Here again, the fixation pattern is manifest as we have lived in only three houses in all these years, and all in the same town. Otherwise, the status quo was not maintained as we have two sons and a daughter, all of whom are married. They, in turn, are providing for the next generation as we have eight grandchildren, and the end is not yet. Summer vacations, with a few exceptions, have been spent in a cottage on Lake Champlain, and I have yet to tire of sitting on the porch and watching the sun set over the Adirondack Mountains. Not much of a hobbyist, in retrospect I guess I have been a sucker for committee work. It seems as though I have always been serving on two or three such. For the last few years I have been a director of two banks, and have enjoyed this very much, particularly the work of some committees (there I go again) on which I serve. On the whole, not an exciting life but a happy one. Most of my hopes have been achieved and, as for the others, given a few years who knows — could be."

Stan Chisholm: Stan writes from San Diego, California. "I am on my 20th year here at Naval Air Station, North Island, engaged in materials engineering and

process development. Thanks to some able and energetic assistance we are able from time to time to effect some slight improvements in aircraft serviceability and to reduce maintenance costs, but mostly gains are gradual and not particularly spectacular. Since research and development is not a major mission of an Air Station, and compensation for such is not, either, we have to rely on younger men who come for the training and experience and who generally leave when they begin to get really good. This turnover, with the military rotation, however, helps prevent stagnation. On the personal side, my oldest boy, Hank, is a civil engineer with the California Highway Commission, and my youngest daughter, Sally, is just graduating this week from Herbert Hoover High School, to enter San Diego State College. I was a retread in World War II, this time in the Naval Reserve, and have maintained an active participation yearly. Both my boys also have military records, Hank with Army Construction Engineers in the Philippines, and Ken with the 40th Division in Korea. The latter is still very active in the California National Guard."

Francis Goodale retired from the sugar industry in 1952 and writes: "Since then I have been living alone in an old stone farmhouse eight miles from town (Stroudsburg, Pa.), which my wife and I had bought for a future home after our retirement. She died in 1948, and we had no children. I have always enjoyed outdoor activity, and now spend most of my time, outside of necessary house-keeping, in manual work around the farm. Once in a while, I yield to an urge for change of scene and join one of the voluntary excursions organized by the Appalachian Mountain Club of Boston. In August I expect to take part in their hiking and camping trip in the Austrian Alps. I am looking forward to the Class Reunion in 1957."

Chet Ames says, "The job of telephone engineering is not as glamorous as some of the positions held by other '17ers, about which I have enjoyed reading immensely. Events probably move too slowly in my particular case for an annual report, but since this, I believe, is the first time since graduation I have been held accountable for my actions, I shall endeavor to recount the epitome of my drab life as succinctly as possible. After graduation, I trained for an artillery commission at Fort Monroe, and upon my return from France in 1919, I entered the engineering department of the New England Telephone Company, where I am still located. The work has been quite interesting, and I have held various positions, the titles of which may be of little significance to outsiders. However, those who may be in the Bell System will recognize that the chronological sequence of the following titles generally represents progress and not regress; the titles being Dial Equipment Engineer, Equipment Engineer, Equipment and Buildings Engineer, Plant Extension Engineer, and my present title of Plant Extension and Equipment Engineer. Incidentally, during my sojourn in the Bell System I have met the following classmates: Charlie Abels, Hen Clayton, Paul de Mars and

Ken Toye. There may be others as there is a large number of M.I.T. men in the Bell System. I have a daughter living in Arlington, Virginia, who is presently celebrating her son's first birthday at his grandfather's home here in Wellesley Hills."

Joyce Kelly showed up in the Boston-Cambridge area once again in late August representing the General Electric Company in some of their top level reactor problems. He stayed at the Ritz but had time enough for a chat with some of the natives. His visit here followed up his recent report for the Class Notes:

"Your letter of July 1 reminds me that our class secretary would like a word from each class member on his birthday. He implements his request by the statement that 'If you enjoy reading letters from other class members do thou likewise.' Inevitably the affairs of M.I.T. and its alumni must be carried on in large measure by those living in New England or near thereto. I sometimes wish, however, that some of you who live in that congested area of the country could share some part of the open areas which we have west of the Rocky Mountains. In flying trips over the New York City or Boston areas the amount of vehicular traffic on highways appalls me, even though I lived in New York City for a number of years. It will perhaps be hard for some of my classmates who have not driven in the Pacific Northwest area to realize that it is possible to drive from here to Portland in about four hours, a distance of over 200 miles. This route takes one down the magnificent Columbia River gorge which is unparalleled in its beauty and grandeur on the North American continent. Since coming to Richland some seven years ago to work with Frank Creedon, I have driven along the Columbia at all hours of day and night, and it presents an ever-changing picture. As a matter of fact, if the 'Technology Review' could find someone well qualified, an article on the geology of the Columbia Basin would be of surpassing interest. This past weekend we took our small boys (eight and ten years of age) to see Grand Coulee Dam. This was their first view of a sight which is truly one of the wonders of the world. This is the season of high water and each of the 18 spillways was covered with 15 feet of water at the crest, falling a distance of 350 feet to the river bed below the dam. The power plant installation was completed to its ultimate capacity four years ago and now supplies about 2,000,000 kilowatts to the northwest power grid. Since my last visit, a gigantic pumping plant has gone into operation and has filled the old Columbia River bed, or 'Coulee,' for irrigation purposes. Water is pumped from the lake behind the dam about 300 feet higher to empty into the artificial lake. It is fascinating to speculate what the river must have been like before some gigantic cataclysm shifted its course some 15 miles to the south. Perhaps it was the same earthquake which destroyed the legendary 'Bridge of the Gods' across a narrow section of the river at Cascade Locks. The Indian legends say that this occurred when the two mountains (Mt. Hood and Mt. St. Helens) spat fire at

each other. At any rate, to change the course of the mighty Columbia by 15 miles horizontally and 400 feet vertically must have required a seismic disturbance of unparalleled proportions. At one point in the old river bed is a four-hundred foot cliff of granite known as 'Dry Falls.' Some 50,000 years ago the entire river poured over this cliff in a waterfall far greater than Niagara. The foregoing is not intended as an advertisement to attract tourists to the Northwest, but we notice that those from other parts of the country who come to work at Richland are usually quite reluctant to leave to go elsewhere. I am still in the employ of General Electric Company in an engineering administrative position with duties quite similar to those which I have had since coming here in 1948. We are still in the business of manufacturing plutonium, as most of you are well aware. There is little I can say on that aspect except that the work is very interesting and presents a continuing challenge. One of the most pleasant features of living in Richland is that there are so many exceptionally fine people here. The public schools are of the highest quality, and all-in-all it is a delightful place to live."

Joe Littlefield has been with Johns-Manville since 1937 and has been Comptroller for Financial Analysis for the past ten years. His wife died in January 1950. He writes: "My older boy, Paul, is married and has three children and lives nearby in Darien. The younger one, Joey, is teaching American Methods to Italian industry and has settled in Rome. The last few years have been quite eventful. I was married in 1952 to Miss Doris Bayley. As my wife is young, we have a lively time. I found your letter when I got in the office on August 3; I had just left my wife and our new daughter, Melissa Moyle, born early that morning. My oldest grandchild is intrigued with the idea of baby-sitting for her aunt. We are a somewhat confused, but very happy family. So, you see, 'There are no hopeless situations,' and life can be full, interesting and happy — even when we pass 60 — I shall retire soon to raise children." — RAYMOND STEVENS, *Secretary*, 30 Memorial Drive, Cambridge, Mass.; W. I. McNEIL, *Assistant Secretary*, 270 Park Avenue, New York City.

• 1918 •

According to the listings in the Alumni Register just published, out of a total of 686 of us, including all categories, there are 551 living and 135 dead. This means that 80 percent of us are alive, voluble, and presumably useful. "Let's examine the record." The following had the energy, time, and cash to register for Alumni Day: T. V. Brosnahan, Lester and Mrs. Conner, Clarence C. Fuller, Edward and Mrs. Gore, Alfred and Mrs. Grossman, John and Mrs. Hanley, Alan F. Howard, Julian and Mrs. Howe, John and Mrs. Kilduff, Gretchen A. Palmer, Max and Mrs. Seltzer, Earl P. Stevenson, and Royal Barry Wills. Phil Dinkins took a new job last June, and is now vice-president in charge of operations for the dye-stuff and chemical division of the General Aniline and Film Corporation. Since 1946 and until last January 1st Phil has been

president of the Jefferson Chemical Company. With characteristic kindness Sax Fletcher wrote Bill Foster a note of congratulation in July when the news was out that August 1st Bill would become an executive vice-president of the Olin Mathieson Chemical Corporation having resigned his post with the Manufacturing Chemists. This company has one of the smartest administrations in the business, and Bill's presence will raise even that average by considerable. Bill had completed eleven years in government service when he resigned as U. S. Deputy Secretary of Defense in 1953 to become the first full time president of the Manufacturing Chemists' Association. Previously he headed the Marshall Plan with Cabinet rank and the title of Administrator for Economic Cooperation; was Undersecretary of Commerce; Deputy United States Special Representative in Europe for E.C.A. with rank of Ambassador Extraordinary and Plenipotentiary and Deputy Administrator of E.C.A. Incidentally, Sax does a lot of business with Olin Mathieson. He also wrote Clarence Fuller congratulations on the latter's elevation to Vice-President of the Foxboro Instrument Company. In connection with Clarence's move from New York to Massachusetts, Bill Wills has built a beautiful house for the Fullers on the shore of a pond in Foxboro.

Fred Philbrick has been in Miami, Florida, scarcely a year, but his activity there has stirred up enough energy to get three columns in the Boston Sunday Herald of August 14th. He's developing real estate again, this time overlooking Biscayne Bay, all because there is a vacant lot across the street from the house he bought and he wanted "to insure the quality of the neighborhood." With 60,000 new residents moving into the area each year, many from New England, Fred will have enough to keep interested. And Gretchen, because of a change in ownership, has left The Thomas School after twenty-four years of faithful, efficient service, to become Parish Secretary at St. Pauls Church in Norwalk, Connecticut. The so-called pillars of that organization gave her a heart-warming reception and by all accounts from Gretchen herself she is happy in her new assignment.

A letter from Dave McFarland, who, despite being a college bantam weight wrestler at 129 pounds, works for the Atlas Powder Company, enclosed a clipping about Maynard Smith (see below). He reports visiting Ken Reid's Vermont home, "a very interesting place, far from the beaten path, with a view of the mountains that is unsurpassed." Dave sometimes gets to Keene, just the other side of our mountain, so I hope some day to welcome him at our door. A number of the brethren have made it this summer. Ken Reid and his wife were first. He has sold the Vermont refuge but what has transpired since I do not know. Sax Fletcher and wife were next, brightening our lives on one of those days when a cold drizzle discouraged outdoor activity. Sax has a farm about twenty miles from here. The latest was Nat Krass, news of whose European jaunt will be given more adequate space next month. To report

a coincidence of the Seltzer and the Evelev European sojourns, a letter from Yale Evelev reported that they unexpectedly ran into each other at a hotel in Florence. After five weeks in Israel the Evelevs saw the ruins of Pompeii, watched Mt. Vesuvius perform, absorbed sunshine in Sicily, studied art treasures in Florence, and even got close to the top of the Jungfrau in Switzerland — by train. Max Seltzer brought home some six hundred gorgeous colored photographs of his trip.

Maynard Smith died last May in Palm Beach to which he had moved in 1952, busying himself with large real estate holdings and stock investments. He had been president of Smalley-General Company, until it was sold to the National Electric Welding Machines Company. He started his business career at Lally Light Company in Detroit, after he had served as an Army pilot in World War I. He was also a former director of Thompson Electric Welder Company with headquarters in Lynn, Mass., stockholder in Michigan Pipe Company and belonged to the Saginaw Bay Yacht club and the Elks' club. He was a member of the Everglades Club at Palm Beach, Coral Beach Club, and Bath and Tennis Club. He married Alma Helen Martin, of Dallas, Texas, September 7, 1918. His second wife, whom he married in 1952, was the former Lynn Mintern, of Beckley, W. Virginia. Besides his widow, he leaves; two daughters and two sons, Donald, of Birmingham, and Maynard Jr., of Bay City, Florida. — F. ALEXANDER MAGOUN, Secretary, Jaffrey, N. H.

• 1919 •

Alumni Day last June was attended by the following classmates: Ken Davidson, Arthur Blake, Mr. and Mrs. Donald W. Kitchen, Mr. and Mrs. George W. McCreery, James R. Moore, and Arklay S. Richards.

We were happy to read in a recent issue of the Simplex magazine about Don Kitchin. In appointing Don as Senior Scientist for the Simplex organizations, Mr. Morss said that Don was "one of the most famous people ever to be at Simplex. His brilliant pioneering has helped to keep Simplex a leading and a respected member of the wire and cable industry." Don and Evelyn celebrated their 38th wedding anniversary last May, so our congratulations are twofold. As Don was Deputy Chairman last year for Alumni Day, he will be your Chairman for the occasion next year.

Adolphe L. Muller sent in his best wishes to the boys in the class. Marshall B. Lee dropped a line saying that he has been transferred as sales engineer for the new branch of Bird and Son at New Britain, Conn., where they make corrugated, solid fibre and cleated fibre shipping cases.

Larry Riegel's company, the Riegel Paper Corp. reports the first successful run of synthetic paper made from nylon fibre which will be useful in making heavy duty bags. Arthur Blake writes that he is still manufacturing rubber toys in Rockland Mass., the famous "Jo-Bo" and other action toys. He says, "My son, John W. Blake received his B. S. in Quantita-

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tive Biology from M.I.T. in June. His daughter (my first grandchild) Cynthia, was born on May 7, 1955."

Ben Bristol has been doing lots of work on the old stand with some fishing and golf. He doesn't expect much improvement in his golf but says the fishing was good at Forteau Labrador. Ray Bartlett writes from New Britain, Connecticut, that he was very fortunate as far as the floods were concerned — no damage at all. He sees Marshall Lee quite often, who has also moved to Connecticut.

Edward Adams Richardson has changed his address to 31 East Church Street, Bethlehem, Pa. His son, Robert, goes into the third grade this year. We have a card which reads, "Since the first of July, 1955, I have been Professor of Mechanics and Head of the Department at Rensselaer Polytechnic Institute, Troy, New York, which is my present address." We'll refrain from remarks about absent minded professors, but there's no signature — EUGENE R. SMOLEY, Secretary, The Lummus Company, 385 Madison Avenue, New York City.

• 1920 •

If you weren't able to attend the 35th Reunion last June we are sorry for you and there is no use rubbing it in by telling you what a good time you missed. Attendance reached a high of 69, actually a larger number than five years before. This in itself is evidence of success. The weather was against us but because it kept us more or less indoors there was a better opportunity to circulate and renew old friendships. Carl Graves of the Sheldon House makes a wonderful host and the gang was unanimously in favor of going there again for the 40th. Flossie and Dorothea were there and we think they had a good time. Among those whom we had not seen for a long time were Dozie Brown, Frank Badger, Bill Freeman and Stan Reynolds. In common with others who have been regular attendants they vowed they would be on hand next time.

Chuck Reed brought along samples of his wonderful collection of 3D colored slides and they were much admired by the picture hobbyists.

A couple of dozen showed up at Alumni Day, the day following the Reunion. This included a few who were unable to get to Pine Orchard, among them, Ned Cochrane, Scott Carpenter, Bat Thresher, Harry Kahn, Fred Gill, George Morgan and Skeets Brown. George and Skeets had come all the way up from Texas accompanied by their wives and that was why they didn't attend our stag reunion. We think they should have come anyway. At any rate, they looked wonderful and we were glad to see them at the Institute.

George Dandrow was unable to make the Reunion because of a cracked knee so I sent him my 3-D color pictures and he had a miniature gathering of the Class at the Union League Club in New York. Among those present were Bradley, Burroughs, Chaffin, DesMarais, Glasset and Reynolds. George says that despite the August heat they had a good time and a lot of reminiscing about persons and

events in the glorious past of the Class of '20.

This is a good time to announce that Buz Burroughs was appointed Chairman of the 40th Reunion Committee for 1960 and Buz indicated to the Dandrow group that plans and specifications for the great event are already under way.

It is a pleasure to announce the marriage of Robert L. Sjostrom to Angela McCosker Van Dolen in Miami Beach last spring.

Your secretary received a welcome phone call from Jose Padilla-Vega who was in Boston with his wife and two daughters for a brief time this summer. Jose came on from Honduras to New York for special medical treatment and he reported that his health was much improved. He is Under-Secretary of Development for the Republic of Honduras and has long been head of their cartographic department.

Our distinguished classmate and Dean of Engineering at M.I.T., Richard Soderberg, did a fine job of running one of the meetings of the Alumni Officers Conference in September. Other classmates present at this fine meeting were George DesMaris, Harold Smiddy, Bat Thresher, Ernie Huntress and your secretary. Dr. Soderberg also attracted widespread attention for his address at the General Motors Conference for Engineering Educators in Detroit in July.

Art Littlefield wrote from Minneapolis that he hoped to be present at the 35th but was unable to make it. His present address is 459 Buchanan Street, Minneapolis 13. George Wilson has moved from Quincy to Braintree, Mass., address 38 Worthington Circle. Oksil P. Andersen is now a professor at the Technical University of Norway in Trondheim. John Bartholomew has moved from Detroit to Cleveland, address 739 East 140th Street. Dave Fiske has left New York City and is now at Dover, Mass. Dr. Fiske was one of the distinguished classmates who attended the Reunion. Richard Goldsmith has left New York and is living in San Mateo. Bunt Murphy has moved from Canaan, New York to nearby Lebanon Springs. Constance Peters has moved from Newton, Mass., to Small Point Beach, Maine. Tsen F. Wei, local president of the Alumni Group in Taipei, is with the Taiwan Trading Corp., 107 Chung Shan North Road, Taipei, Taiwan.

I am indebted to Ernie Whitehead for a fine batch of Reunion pictures taken with his new Polaroid Camera. I'll show them to you if you'll come around in 1960, or even before.

If past experience is any guide, these notes will dry up and maybe die in subsequent months for lack of nourishment. How about a word from you to keep them going? Even a post card will do. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1922 •

Greetings and best wishes for the new Review year. Many of our class continue active in alumni affairs. At the Course XV, Alumni conference, held May 7th, the following were on hand: Robert H. Brown, Nathan Cherniack, Thomas S. Craig, Frank Kurtz, Duncan R. Linsley,

Theodore T. Miller, Raymond C. Rundlett, Dale D. Spoor, Robert Tonon, Paul Ryan and William W. Russell. On September 9th and 10th the following classmates were in attendance at the first Alumni Officers' Conference: Parke D. Appel, Robert H. Brown, C. Yardley Chittick, Warren T. Ferguson, Whitworth Ferguson, Oscar H. Horovitz, Theodore T. Miller, William B. Purinton, Preston Robinson, Raymond C. Rundlett and Dale D. Spoor.

As you will recall from past Class Notes, Frank Wing had a party at his home in Weston for the Class on Sunday, June 12. This was well attended but it is to be hoped that a much larger number will be on hand next year. Frank went all out in providing New England hospitality for which we extend our sincere thanks. Those present were: Mr. and Mrs. Appel, Bob Brown, Mr. and Mrs. Chittick, Fred Dillon, Mr. and Mrs. Warren Ferguson, Whit Ferguson, Morris Gens, Mr. and Mrs. Horovitz, Joe Keenan, Mr. and Mrs. Lincoln, Marjorie Pierce, Mr. and Mrs. Riley, Mr. and Mrs. Rundlett, Mr. and Mrs. Russell, Bob Tonon and our host and hostess, Mr. and Mrs. Wing. The next day, at the Alumni Luncheon, in the Great Court, at the cocktail party at the Statler before the dinner, and at the Alumni Banquet, were these members of the Class: Appel,* Brown,* Chittick,* Craig, Dillon, Eacker, Ferguson (Warren), Ferguson (Whitworth), Gens, Godard, Grover, Hogan,* Horovitz, Lincoln,* Medalia,* Miller, Myer, Pierce, Pratt, Richards, Riley,* Robertson, Rosengard, Russell, Saunders, Sherbrooke, Shirey, Strieder, Terkelsen, Thomson, Tonon, Turner, Vaupel, Wing* and Wray.* Those whose names are followed by asterisks gave us all additional pleasure by bringing their wives. Fay Lincoln, our eminent photographer from New York, brought his camera and took pictures of the festivities at Frank Wing's house and the cocktail party at the Statler and subsequently sent those who were in attendance excellent prints.

The reason George Dandrow wasn't with us on Alumni Day was because he fell and broke his left knee cap early Monday morning, Decoration Day, 1955. Let George tell it: "The little macadam type walkway, down from the club, is at a steep cant. And as I started down this steep slope, the right foot gave way in front and I vaulted forward with the left leg bent and the impact was that of 276 lbs. on the left knee cap, after quite a drop due to the steep slope of the walkway at that particular point — I think the kindest remark of all came from one of my friends, who dropped a line to me at the hospital, indicating that had I been more dutiful in picking up those various scotch and sodas, I would have, no doubt, rolled the entire distance down to my car without so much as a scratch." George, we missed you at Reunion and hope that you are now completely recovered. While on the subject of accidents, Don Carpenter was bitten in the leg by a dog last Spring, the bite severing a tendon, resulting in Don being laid up for a while.

Leslie D. Price is Manager of the Engineering and Safety Regulations De-

partment of the National Electrical Manufacturers Association. Les is responsible for the coordination of all electrical standardization work with N.E.M.A. and with other national and international agencies such as The American Standards Association, the American Institute of Electrical Engineers and the American Society of Testing Materials. Prior to joining N.E.M.A., Les had served for 22 years with the Public Service Electric and Gas Company of New Jersey. While a resident of New York City he has recently acquired a farm in North Harpswell, Maine. Your Secretary received a nice note from Isadore Loss, which we quote: "In the hope that some of our classmates will look me up when in the vicinity, I will account for my activities since leaving Tech. From 1922 to 1928 I was at the River Works of G.E. at Lynn, Mass. in the Centrifugal Compressor Department on design work. I was then transferred to the New York office of G.E. on application work. In 1934 Ingersoll Rand Co. took over this section and I went with Ingersoll Rand, in the New York office, until 1942. Then spent a two year hitch in Washington as a dollar a year man in the Steel Division and General Industrial Equipment Division. Since then I have been at the Philipsburg, New Jersey Works of Ingersoll Rand as Assistant Engineer in charge of turbo blowers. We live at Harmony, New Jersey on eight acres and enjoy country living, have three daughters, one of whom is married. I became a grandfather last April so time seems to march on. I hope that when any of our classmates are in the vicinity they will give me a ring." Thanks, Izzy. Your Secretary would welcome other letters of this type. You would be surprised how many of your classmates are wondering what you are doing and where you have been all these years.

Now to the matrimonial department. Frederick A. Higgins of 44 Central Street, Andover, Mass. and Treasurer of the Central Construction Company of that city, was married last April to Miss Alice McManmon of Dracut, Mass. Mrs. Higgins is a graduate of Lowell State Teachers' College and the Harvard Graduate School of Education and is a member of the Varum (Dracut) Junior High School faculty. Jack Hennessy's daughter, Sally, was married last June to George Bruce Thurmond at Chestnut Hill, Massachusetts. Earlier in the year Leonard (Fish) Laird's son, William Leonard Laird, was married in Garden City, New York to Miss Carolann McKesson. Bob Purinton's daughter, Anne, was married last April to Robert P. Hazard, III. Isobel Horovitz, Oscar's daughter, is a senior at Tuft's University and is engaged to Gordon Kane, a senior at M.I.T. in Course VI.

Sadly, we must tell you of some recent deaths. Parker McConnell died last June at age 59 at Norfolk, Virginia. At the time of his death he was President and General Manager of the Colonial Oil Company, which he and Willard H. Ray, M.I.T.'21, founded in the late twenties. From 1942 to 1945 he was Chairman of the Executive Committee for the Port of Hampton Roads of the United Seamen's Service. He also served on the board of the Norfolk Association of Commerce, forerunner of

the Chamber of Commerce. He is survived by his widow, a daughter, a step-daughter, three step-sons and two sisters. Ralph S. Hayes of Swarthmore, Pennsylvania died June 9, 1955 and Edwin J. (Ed) Allen died in May. No details are available.

We also have belated word of the deaths of Richard M. Kasch, in 1952, Manuel Gonzales of Manila, Philippine Islands, in June 1951 and Ole I. Vold in Norway December 6, 1954. Similarly in these cases, no details have reached us. It is even more distressing to learn of deaths in the next generation. Horace W. McCurdy's son, Thomas W., died at the age of 26 from a service incurred disability. He contracted an intestinal disease for which there was no cure and after a long illness, died in Seattle, last July. And finally, the Massachusetts epidemic fatally struck down Morris Gens' son, during the summer. The sympathy of the class is extended to the families of the deceased. — C. YARDLEY CHITTICK, *Secretary*, 41 The-mont Street, Boston, Massachusetts. WHITWORTH FERGUSON, *Assistant Secretary*, 333 Ellicott Street, Buffalo 3, N. Y.

• 1923 •

Hope you all had a nice Summer and are getting ready for an equally nice Winter. The Class was well represented during the festivities on Alumni Day. Hugh S. Ferguson, XV, retiring President of the Alumni Association, officiated in a capable and gracious manner. Julius Stratton, VI was among the notables seated at the head table at the evening banquet. The following attended all or part of the festivities during the day, — many with their wives (all beautiful!) Bond, Burke, Buchard, Chatto, Cooper, Ferguson, Greenblatt, Greenough, Griswold, Hayden, Howland, Johnson, Kaufman, Lange, Lockhart, Pennypacker, Russell, Skinner, Stratton, Wagner, Sterling, Stewart, Redway, Morgan and Penny-backer.

Did you read the article about Al Perlman, XV, in the June '55 issue of Reader's Digest? If not, it is recommended for your attention. "Local Boy Makes Good." Now we know why Young chose him as President of the New York Central.

President Jack Zimmerman, II, returned the latter part of July from a six weeks' trip in Europe — the first three of which was with a group representing the AIME and the ASM on a joint metallurgical visitation; with one week in the United Kingdom, one in Germany and one in France. Then, Margery and he flew to Switzerland. Jack put in the final three weeks visiting steel plants in nine European countries. He survived and claims he had a wonderful trip.

Jack has had two letters — one from C. P. Thayer, (VIII) at Miami, Florida, stating the latter's M.I.T. activities have been confined to the local Club which he assisted in founding. He is with the County Health Department in that City. The second letter is from Ray Meekins, (III) of Alexandria, Va., heartily approving M.I.T.'s venture into the field of humanities — an experiment which he thinks is bound to produce great results. (John Burchard please note.) He is with the Defense Department in Washington.

Phil Coleman, (XV) passes on the news that Fritz Clement, (XV) won this summer, for the fifth time, the championship at Old Elm Golf Club of Highland Park, Illinois, with a terrific 65 — (Gosh, I didn't know they made them that low!) Also, he took the championship at the Onwentsia Country Club at Lake Forest for the 7th time. He was our crack player on the M.I.T. Golf Team in the early 1920's. Nice going!

Bernard S. Falk, (VI) General Sales Manager of the International Lock Company, as the principal speaker at the Worcester Chapter of the National Office Management Association meeting last spring, stated that a sales-minded office manager is the most important person in a company. My observation is that it also helps to save a similarly-minded Board of Directors.

Stephen B. Metcalf, (III) became the new Manager of the American Steel and Wire Company plants at Worcester, Mass. early in the summer. He has been progressively climbing the ladder of success through various divisions of the Company at Trenton, New Haven and Worcester, arriving at the latter just in time to take on the floods that followed Hurricane Diane. A native of Knoxville, Tenn., he attended the University of California before graduating with a B.S. Degree in Mining and Metallurgy at the Institute.

Frank Haven, (II) had a newsy letter from John C. O'Flaherty, (III) who runs a construction company by the same name at Denver, Col. John was rather badly wounded as a Major of Combat Engineers in the European Theatre in World War II. He also served in Bermuda and Iceland and is now retired from the Army. He and his wife, Eileen Underhill, a former WAC Lieutenant, have five children and are expecting another "Blessed Event" in November. John loves Denver and vicinity and claims he wouldn't be caught dead back in New England. (Tut, tut! After all the money we spent educating that boy!) He also furnishes the news that Norman Weiss, (III) is Chief Engineer of the American Smelting and Refining Co. at Salt Lake. (John, you are hereby appointed as the Mountain State Listening Post for Class Notes.)

Brig. Gen. Richard P. Ovenshire, (IX) retired, is one of the candidates for the Republican nomination for the Fairfax (Virginia) County Board of Supervisors and a delegate to the Virginia General Assembly. He has served as President of the Fordham Village Citizens Association and represented his group as a delegate to the Civic Federation. In World War II he served as Chief of Staff of three different divisions and commanded an infantry regiment at Okinawa and in Japan. He was in command of the 31st Infantry Regiment during the Inchon landing in Korea.

This is a fine set of notes for this issue. It is a pleasure to set them up for you — it will be an equal pleasure to carry on in the following months if you will kindly send in items about yourselves and your associates. Remember, the rest of the Class is always interested and you never can tell who will get joy and pleasure when reading about your activities. —

HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 No. Broadway, White Plains, N. Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington St., Auburndale 66, Mass.

• 1924 •

Greetings once again, although the summer has not been entirely lacking in communication. You long since received our Class Directory. For the many nice comments you sent back, many thanks. Also your dollars have gone a long way toward putting us back in a solvent condition. They were most welcome. One directory was returned with the address label missing, so if you didn't get yours let me know. That may have been it. As the foreword said, our monthly notes will help keep those listings up to date, so here are some as a starter: A. C. Read, Jr. has a new office at 212 Louisiana St., Little Rock; George Neitlich's office is now Blue Hills Office, Metropolitan Life Ins. Co., 1531 Blue Hill Ave., Mattapan 26, Mass.; and we have new and more complete information on H. H. Stutman. It's Stutman and Margolin Dress Co., 124 Kneeland St., Boston, with a new home address at 64 Blake Rd., Brookline, Mass. Be sure and keep me informed of your new address, when, if and as.

It is with real sorrow that I have to inform you of one other change. On August 18 Wink Quarles died at his home in Darien. It was a heart attack. As everyone who has ever attended a reunion or a meeting of our class in New York knows, Wink was always a prime mover. Those gatherings will never seem quite the same again. To Mrs. Quarles, the sincere sympathy of the entire class.

September 9 and 10 saw the First Alumni Officers Conference at M.I.T. Almost 300 attended, and it was a most worthwhile affair. Nobody really checked mileage, but probably the long distance winner was William H. MacCallum. Bill, by the way, is running the big M.I.T. Regional Conference in Los Angeles sometime in March. Also making a bit of a trip for the occasion was George J. Fertig, of Birmingham, Alabama. From slightly nearer points came Frank Shaw, George Knight, Ray Lehrer, Harold Hazen, Avery Ashdown, Dick Lassiter and your secretary. A goodly turnout.

Now let's see what you fellows have been up to this summer. Missed seeing Ed Wininger one day in August, but expect to catch up with him again. He's still putting up concrete silos around the world, but he has also added a new and more glamorous line, launching sites for guided missiles. A couple of these are going in now around Boston, and more will probably follow. The Paul Cardinals spent a busy summer running around seeing their family, collecting tennis prizes and organizing "deep sea fishing excursions which have brought in an even ton of blue fish," presumably to be converted into bulk vitamins. In November Paul talks to the Public Health Association in Kansas City. Son John is a senior at M.I.T. this year. The Ilfelds left for New Mexico in June, like all other students heading home. En route they were in at the arrival of another grandchild, and after checking in at Taos they started

roaming again. Cards have been arriving from all over the Rockies and the West Coast. As soon as one more grandchild has put in an appearance they'll head for Europe. Andrew P. Kellogg, Schenectady publisher, dropped in one day. He was on his way to New Hampshire to pick up one of his retrievers which had been going to school there. W. Carleton Bartow, for many years a maker of caskets, is currently looking over other fields.

Charles H. Blake, M.I.T. Professor of Zoology and, among other offices President of the Northeastern Bird Banders Association, is in Jamaica on a Fulbright to establish a banding station there. While making preparations he wrote to Luis Ferre in Puerto Rico and discovered, much to his surprise and pleasure, that Luis too is quite a bird fancier. A couple of other Ferre family notes have come to hand. Luisito who graduated with honors from Amherst last June, has entered Harvard this fall. Rosarito, back in Wellesley at Dana Hall again this year, was nominated by the local Puerto Rican press as "Queen of the Press." This performance was topped by another class daughter. Yvonne de los Reyes, 17-year old ballet dancer and a "startling beauty" (Hank Simonds) was Miss Philippines in the recent Miss Universe contest in California. She didn't win, but together with her mother she got a trip to the U.S. as far as New York, anyhow. Cris, presumably, stayed home to keep house.

Another of our professors, Martin J. Buerger, is just back from the American Physical Society meeting in Mexico City. He is now in his second year as Chairman of the Faculty at M.I.T. At St. Louis in August at the annual convention of the American Society of Chartered Life Underwriters a new president was elected, George Neitlich.

For the last six months Chief Engineer Simonds has been on the west coast on temporary assignments. One was to take apart and put together again one of the Greek tankers we seized a couple of years ago. "Surveying, they call it," says Hank. A very sad accident occurred in July. Peter Hoaglund, 29-year-old son of Dr. Hudson Hoaglund, a World War II pilot and sales manager of Polaroid, was flying home in his own plane from a business trip when motor trouble developed and he was killed in attempting a landing.

Last June there were seventeen of us at Alumni Day including Wink Quarles, the last time most of us saw him. For an "off" year that was a fairly good delegation. You've all seen the 1955 Alumni Fund report by now and you know how we did as a class. It was great, more by far than we've ever given before. This year, with the crying need for scholarship funds and the remarkable accomplishments and future potential of the Institute's medical researches and treatment programs, we should be able and, it is hoped, willing to do at least as well. You've already heard from Frank Shaw. I hope that he in turn will hear from you, and soon. — HENRY B. KANE, *Secretary*, Room 1-272, M.I.T., Cambridge, Mass.

• 1925 •

The 30th Reunion is now history. Though the complete account will be pre-

pared in the near future by Ed Kussmaul, there are certain matters concerned with the Reunion which should be made a part of the official record. Hence, they are recounted in these notes.

The number of classmates, wives and other family members who attended one or all events beginning on Friday, June 10th and carrying through Alumni Day on Monday, June 13th, totalled 110. Those present were: Mr. and Mrs. Bill Arnold; Mr. and Mrs. Rusty Blair; Mr. and Mrs. Harrison Browning and their son, Tom; Mr. and Mrs. Sam Caldwell and son and daughter; Mr. and Mrs. Hank Colby; Mr. and Mrs. Stan Davis; Mr. and Mrs. "Doc" Foster; Mr. and Mrs. Maurice Freeman; Mr. and Mrs. George Geis; Charlie Giblein; Mr. and Mrs. Sam Glaser; Mr. and Mrs. Dave Goldman and daughter Susan; Mr. and Mrs. Fred Greer; Mr. and Mrs. Ben Groenwold; Mr. and Mrs. Gus Hall; Mr. and Mrs. Bob Hodson; Mr. and Mrs. Ed Kussmaul and four children; Mr. and Mrs. George McDaniel; Mr. and Mrs. Henry McKenna; Mr. and Mrs. Ted Mitcham; Mr. and Mrs. Ron Mitchell; Mr. and Mrs. Frank Mulcahy, son Kevin, and Frank's sister-in-law; Ben Oxnard; Mr. and Mrs. Rufe Palmer; Mr. and Mrs. Tom Price and son Tony; Mr. and Mrs. Cap Ranger; Mr. and Mrs. Ken Robie; Mr. and Mrs. Milt Salzman and son; Mr. and Mrs. Wally Squire; Mr. and Mrs. Ave Stanton; Bill Steinwedell; Don Taber; Mr. and Mrs. Clarence Thulin; Mr. and Mrs. Chet Trask; Mr. and Mrs. Frank Turnbull and daughter; Mr. and Mrs. Don Vaughan; Mr. and Mrs. Wally Westland; Rick Wheeler; Mr. and Mrs. Jim Woodward; Ken Bainbridge; Ernie Greenough; Mr. and Mrs. Greg Gregory; Jim Howard; Mr. and Mrs. Mac Levine; Frank O'Neil; Mr. and Mrs. Hal Robichau; Henry Sachs; Mr. and Mrs. Roland Seabury and family, and Mr. and Mrs. Karl Van Tassel and daughter.

As special guests for our reunion, were Mr. and Mrs. Harold Lobdell. Don Severance was with us for the Friday activities and all day Saturday. Dr. Julius Stratton and Mrs. Stratton were with us for several of the Saturday activities. We received regrets from many classmates who found it impossible to attend the Reunion. Bill Asbury was attending the World Petroleum Congress in Rome, while Bob Ashworth was in Brussels, Belgium attending the Machinery Fair. Sam Spiker was also planning to be in Europe while Tod De foe was taking up his residence for the time being in Manila. Don Henderson and his wife left on a business trip abroad on the 24th of May and expected to be gone until the middle of the summer.

All of us are greatly indebted to Don for making arrangements before he departed for us to have 20th Century-Fox's movie, "The Golden Twenties." This was shown on the Friday night of our Reunion to the great delight of everyone.

Tom Killian, who has returned to the Office of Naval Research as Deputy Chief and Chief Scientist, had planned to be at the Reunion but at the last minute he was called to London by the Navy Department. Others who had made reservations but at the last minute found that business or family sickness prevented their coming were: Ed McLaughlin, Ken Proctor, Mike

O'Brien, Dow Drukker, Carl Mabley, the Ted Butlers, the Joe McCarthys, the Gil Delugachs, Joe Russell, Phil Niles and the Gates Burrows. Business commitments prevented Corny Enright and Stan Lane, two of our old faithfuls, from being with us, while high school graduation of Russell Meyerand's daughters from the Kirkwood, Missouri High School prevented his coming. Nelson Malone, head of the insurance department in Revere Copper and Brass, Inc., Rome, New York, wrote me to say he would not be able to make the reunion. He and Tony Lauria, with their wives, had dinner at Tony's home on May 28th and called it a "triple celebration," namely their 30th Reunion, Nelson's wife's birthday and an early celebration of the Laurias' 25th wedding anniversary. The Laurias were taking a trip to South America which eventually would bring them to Sao Paulo, Brazil, where they were married in 1930. Tony is still with Sears, Roebuck and Co., and, since your secretary spent an evening with the Laurias early in September, a great deal more about their trip will appear in the next issue of the *Review*.

Much of the credit for the success of the 30th Reunion belongs to the various committee members, who carried out their job so well under the general chairmanship of your secretary. A great deal of credit is also due to those who attended and made all the events so interesting. The committee members and their responsibilities are noted as follows: Ave Stanton — Committee-Member-at-Large; Sam Caldwell — Treasurer; Wally Squire and Jim Howard — Co-Chairmen — Friday Night Program; Fred Greer — Chairman — Saturday Symposium and Luncheon, Ollen Latham, Jr., representing the Class of 1930, carried the corresponding responsibility for that class; Bill Arnold — Chairman — Saturday Afternoon Activities; Sam Glaser and Wally Westland — Co-Chairmen — Saturday Evening Program; Henry McKenna — Sunday Outing and Shore Dinner; Hal Robichau, Ken Robie and Chet Trask — Door Prizes and Mementos; Chink Drew — Class Gift; Ed Kussmaul — Reunion Report; Ken Robie Chairman of the Nominating Committee.

Mrs. Fred Greer was chairman of the Ladies' Committee, and the wives of all of the committee members teamed up under her supervision to lend their aid, doing much to make the reunion a success. Many classmates contributed door prizes, and their names certainly should appear in the official records as follows: Bill Arnold, Bob Ashworth, Chink Drew, Maurice Freeman, Don Henderson, Jim Howard, Bob Huthsteiner, Ed Kussmaul, Carl Mabley, Mike O'Brien, Ben Oxnard, Tom Price, Cap Ranger, Joe Russell, Melvin Shikes, Bill Steinwedell, Rick Wheeler and Jim Woodward.

Class Officers elected at the Reunion were as follows: President — Frederick W. Greer; Vice-Presidents — Harrison Browning and Morrough P. O'Brien; Secretary-Treasurer — F. Leroy Foster; Historian — Maurice T. Freeman; Class Agent — Garvin A. Drew; Executive Committee — Avery H. Stanton, Wallace J. Squire and Carleton Mabley, Jr.

This slate was prepared by Ken Robie's committee, composed of George McDan-

iel, Tom Price, Tony Lauria and Chink Drew, the last two voting in absentia.

Other class news will have to wait for a later issue of the *Review*. However, mention must be made of the most successful first Alumni Officers' Conference, held at M.I.T. on September 9 and 10. The Class of 1925 was represented by Fred Greer, Ed Harris, Tom Price, Ave Stanton and Horace Weihmiller. Your secretary should have been in attendance but was attending the Ninth Annual Conference on the Administration of Research at Northwestern University, during which time he found the opportunity to have lunch with Herb Taylor and dinner at Tony Lauria's. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T.

• 1926 •

Somehow this date for the first issue of class notes came right up out of the floor and your secretary who always writes at dawn finds himself starting on a Sunday evening in September. However, there is no scraping the bottom of the barrel for the first issue — the problem is how to keep from shooting the works because we want to have something to start with next month. We had an excellent "26" turnout for Alumni Day on June 13th. The following classmates came, many with their wives: Fred Broughton, Larry Cumming, Don Cunningham, Bob Dawes and Mrs. Dawes, Bob Dean and Mrs. Dean, Nat Gada and Mrs. Gada, Jim Killian and Mrs. Killian, Jack Larkin and Mrs. Larkin, Benny Margolin and Mrs. Margolin, Stew Perry, Marvin Pickett, "Pink" Salmon, Flint Taylor, Cedric Thompson and Mrs. Thompson, Frank Toperzer, Cedric Valentine, "Bud" Wilbur and Mrs. Wilbur. In addition Martin Bergen and "Dave" Harrison dropped by for part of the meeting. "Marty" is now spending full time teaching engineering and is living on Long Island. "Dave" was in the process of moving from Long Island to Detroit and he promised to send us his new address and also to get in touch with Gordon Spear as soon as he gets settled.

Very shortly after Alumni Day we received notice of the death of Ralph E. Smith. We have no details, the notice coming from the Alumni Register gave the date as May 8th. Ralph attended our last reunion and had very recently been transferred by the Aluminum Co. of America from Philadelphia to Worcester, Massachusetts.

Early in the summer Bob Richardson and his wife dropped by at Pigeon Cove, a visit for which we were most grateful, in view of the scolding he gave me for mentioning that I had been in Swarthmore, Penn. without looking him up. I was just getting ready to go yacht racing and have the feeling that Bob might have otherwise stayed a little longer but he really did seem to be in quite a rush. I, incidentally, had quite a time this summer trying to find out what makes a Star boat go and come in last time after time. It's amazing how even in a sport like this you can find some class of "26" angles. During one of our July races I was sailing the "Flying Cloud" a little better than usual and was tearing along on the starboard tack (right-of-way tack) about two miles off shore when crash-bang — another

star came right thru the middle of me. The other boat (on the port tack) believe it or not was being sailed by the brother-in-law of a twenty-six man but here we will mention no names. My boat was pretty well clobbered but the principal damage was a broken mast. After many desperate phone calls around the country I found that a new mast was not to be had so I prevailed upon our local boat builder to splice in some new wood and put my mast back together which he did most beautifully. What did he use for wood? Again, believe it or not it was a piece of sitka spruce that had been left over from the building of the mast for Austin Kelly's boat several years ago. Fortunately, Austin, that piece of wood started bringing me luck and the boat began to go just a little bit better and finally on Labor Day I won my first race of the season. I wouldn't swap that spliced mast for a brand new one now.

One evening in August who should blow in but Bill Forrester and his son Alec. It was right after the New England flood and in order to get here Bill chartered a plane and flew to nearby Beverly. Alec is going to school in Arizona this winter at an unusual prep school located on a ranch. A mathematics instructor from the school was summering here and this was an ideal meeting place for dad and son since Alec was working at a boys' camp in Maine. It's wonderful to have people drop in like this — we do enjoy it.

Jack Larkin wrote while on vacation that he thought he had found the spot for our 30th reunion. Jack vacationed on Cape Cod and while there he visited the Hotel Belmont at West Harwich. The Belmont had a great deal of similarity to the Wianno Club which seemed to have been the best reunion spot our class had ever visited but Wianno has never opened early enough for a reunion since. Consequently, right after Labor Day, reunion chairman Cedric Valentine, Jack Larkin, "Pink" Salmon and I lunched together and quickly agreed to submit the Belmont suggestion to our class president. Since Dave had been needling us to get going his accord was quick in coming. Therefore we can now tell you that for fifty-six it's the Belmont and in subsequent issues we will start telling you what a swank place you are headed for next June. But, as stated above, I must not exhaust my reservoir of class notes in the first issue so with best wishes for a most pleasant Thanksgiving we will continue in the December issue. — GEORGE WARREN SMITH, *Secretary*, c/o E. I. Du Pont de Nemours & Co., Inc., Room 325, 140 Federal St., Boston, Mass.

• 1927 •

And so to begin another year of Class Notes with special attention to Dike Arnold's election as President of the Alumni Association. On September 9 and 10 he presided over a meeting in Cambridge of Alumni and Class Officers. We were represented by our president, Jim Lyles, at this meeting. It is heartwarming indeed to have a member of our class rendering this great service to M.I.T.

William Zisman who is head of the Surface Chemistry Branch of the Naval Re-

search Laboratory in Washington has been awarded the 1954 Hillebrand prize by the Chemical Society of Washington, for his new and original investigations and studies in surface chemistry. Our congratulations to Dr. Zisman.

A letter from Adelbert Billings tells of his promotion to Assistant Development Manager of Kelly-Springfield Tire Company at Cumberland, Md. He is advancing too in the grandfather department.

A letter of particular interest comes from Maurice Davier who has resigned as vice president and general manager of Van Cleef Bros. Inc., Division of Johns-Manville and has been appointed Professor of Business Administration at the new Graduate School of Business of the University of Virginia, which is to start courses in the Fall. This is the first graduate school of business in the South and as such has received tremendous interest and cooperation on the part of southern industry. The complete change of activity also gives Maurie a long-awaited chance to return to his home in Charlottesville after many years away.

I bumped into Professor Schell at Williamsburg when he was on his way to consult with Professor Davier with reference to the new setup. John Drisko grabbed me by the arm at Fifth Avenue and I was just able to put the name and the face back together again. He is with Knappen-Tippetts-Abbet-McCarthy, engineers, 62 West 47th Street, N. Y., and had just been granted a Government flood control assignment.

If you want to buy or build a house in Coral Gables, Ed Himrod is your man. He operates his own construction business and would like to see all those classmates who "finally heed the call and move down here," as Ed did four years ago.

James Small who is Director of the Patent Division of the Esso Research and Engineering Company, presented a speech to the American Chemical Society entitled "What the Chemist Should Know About Patent Law." He discussed the inventor's basic problem in recognizing his invention and taking the proper steps to protect his right to patent it.

The United Shoe Machinery Corporation has announced the appointment of Robert Bigelow as Director of Research. He was formerly assistant director of this department.

J. Robert Bonnar spoke to the American Association of Textile Chemists and Colorists on the subject "The Dyeing and Finishing of New Synthetics." He is chairman of the President's Advisory Committee (AATCC).

Morgan Collins joined the Ford Motor Company in 1948 and has been Assistant Treasurer since 1953. He recently addressed the San Francisco Chamber of Commerce and the San Francisco Security Analysts on "The New Look at Ford."

George Acock tells us that he left Rome last Spring to take a position as Staff Development Engineer in the Electrical Product Development Department of Kaiser Aluminum and Chemical Corp., Newark, Ohio. "It is very stimulating and interesting to be a part of the fastest growing Aluminum Company."

Donald F. Horton was one of 5,000 persons selected to observe the 1955 atomic

tests in Nevada last Spring. He took part in Exercise Desert Rock VI and witnessed an atomic explosion from a trench about 4,000 yards away.

Election of Arthur G. Connolly, of Wilmington, Del. to the board of directors of the Sprague Electric Company was announced early this year. He will fill the unexpired term of the late George B. Flood.

We regret to record the death of Charles Harmany Johnson, Jr., of New Castle, Penna., where he had been president and director of the Lawrence Savings and Trust Company since 1941. He was a director of many other organizations in Western Pennsylvania, including New Castle Hotel Company, and Hall Johnson Construction Company, and was very active in the New Castle Community Chest, The Jameson Memorial Hospital, and other community projects.

Please be sure to write your Class Secretary this year of your activities. — JOSEPH S. HARRIS, *Secretary*, Shell Oil Company, Aviation Department, 50 W. 50th St., N. Y. C.

• 1928 •

Twenty-Eight'ers were registered in good force for Alumni Day on June 13. Following is the list: William H. Carlisle, Jr., Dudley F. and Mrs. Collier, Chester M. Day, David R. Donovan, James and Mrs. Donovan, Roland D. and Mrs. Earle, Myron S. Falk, Jr., '30, Robert S. and Mrs. Harris, Thurston Hartwell, Walter E. Hildick, Ralph T. and Mrs. Joje, Thorwald and Mrs. Larson, Walter J. Smith, Hermon S. Swartz, Robert Wise, Abraham Woolf. Most of the men remained for the Alumni dinner at the Hotel Statler. The Jopes were obliged to leave early because of an emergency appendectomy operation performed on their daughter, Roxanne. We are very happy to say that Rocky has recovered nicely; she returns to her classes at Wellesley this fall.

Ralph Joje received two newspaper clippings (*Buffalo Evening News*). The clippings contained photographs of Ben Kelsey presenting the Appreciation Award of the National Defense Transportation Association to Mr. Lawrence D. Bell, President of the Bell Aircraft Corporation, at a dinner in the Hotel Sheraton. Ben is now Brig. Gen. of the U.S.A.F., deputy director of the Research and Development Headquarters of the Air Force, and has made a name for himself in the military field; he wears the Distinguished Service Cross, Distinguished Flying Cross, Air Medal with two Oak Leaf Clusters.

Carl Bernhardt, himself, is now Senior Sanitary Engineer, New York State Dept. of Health in Albany, New York. Many thanks, Carl, for your contribution.

Herman Swartz sent in an interesting bit of news printed in the *Road Builders' News* of March-April, 1955. Ed Holmes, who graduated in Course I, has now been appointed as Deputy Commissioner in charge of the Research Division of the U.S. Bureau of Public Roads. Except for one year that he took out for graduate study at the Harvard School of Street Traffic, Ed has been with the B.P.R. since leaving M.I.T. in 1928. Our congratulations to you Ed on your advancement to this new post of authority.

We learn from the *Daily News Record* (textile trade paper) of June 22, that Tom Larson is not only keeping well up on his game of golf but is continually winning new honors. At the annual golf tournament of the Rhode Island section of the American Association of Textile Chemists and Colorists, Tom captured low gross honors. You golfers had better sharpen your game before another reunion comes up!

A clipping from the *Daily News*, New York City, May 1, informs us of the present activities of Eleanor Pepper. Miss Pepper, since her graduation in Course IV, has made interior design her career. She is head of Pratt Institute's department of interior design, and is now engaged in planning the interior decoration of the new \$14,500,000 Basic Sciences Building of the State University of New York College of Medicine, Brooklyn. — GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, New York. WALTER J. SMITH, *Assistant Secretary*, 15 Acorn Park, Cambridge, Mass.

• 1932 •

Your secretary returns from a rather late summer vacation to find a most rewarding and thick file containing the summer's accumulation of notes and correspondence on our classmates. I have either exchanged correspondence or have new information on 70 men and two women! I can't begin to digest and properly collate the many interesting news items for this first letter, and it will probably take the better part of the next two letters to bring you up to date.

There are a few things that do stand out, at least in my mind, that I will pass on to you now. First, there seems to be increasing interest in the 25th Reunion. Rolf Eliassen, who is on both the Alumni Association Reunion Committee and on our own, has been giving it a lot of thought with Tom Sears, Ed Nealand, and other members of our committee, and we will be having a preliminary prospectus before too long. The thinking now is to have the reunion at Baker House, which seems to be becoming a tradition because of the very excellent results the last three 25-year classes have had there. It is my personal judgment, based on the reunion comments in my correspondence, that we would have a larger turnout if the meeting was held right at Baker House than as if we tried to find some "spot in the woods." Also the whole scope of M.I.T. and its impact on the times is such that I am sure we would all be greatly stimulated by getting a good firsthand view of the program there. At any rate, more on this later, but I do want to report my feeling of growing enthusiasm for the meeting and a conviction that we could have a really banner reunion.

Frank Chaplin, who, incidentally, is President of the Philadelphia M.I.T. Club, has made a fine suggestion that each enthusiastic reunion rooter personally gets after one or more who need to get the gospel. I am passing this suggestion along to Rolf and to Tom and believe that it has got a great deal of merit.

Finally, after all these years, believe it or not, I have found Tommy Anderson. The July issue of *Chemical Engineering*

had an article, "How to Select Plant Drives for Process Heat Balance" by Thomas H. Anderson, Jr. This corresponds to the name I have on record, so it must be so. Furthermore, the picture does bear a real resemblance. The accompanying comments included the facts that Tom is now with C. F. Braun and Co. at Alhambra, California, whom he joined in 1947 after a career first with Standard Oil of Louisiana and then later with Standard Oil of California in process work, maintenance and construction. He is presently Senior Project Engineer with Braun and has been Project Manager recently on a number of large petroleum industry expansions.

I have also located Bob Butler's address — Caixa Postal 396, Belem, Para, Brazil, where he is prospecting for iron ore for Bethlehem Steel. Bob says he is going to write me a letter one of these days, which I am sure will be full of a lot of interesting Brazilian folklore.

Dirwood (Dan) Danforth writes from Somerville, New Jersey, where he is Chief Design Draftsman for the Electrical Division of Singer Sewing Machine Company. Dan has been M.I.T. Educational Counselor for the past two years, which he says gives him a lot of enjoyment in his contact with the school activities. He has just had a new boy to complement his 10-year old daughter.

Al Dunning is back in the country from Japan as Director of Marketing for the Shawinigan Resins Corporation of Springfield, Mass. He reports he hasn't completely reestablished himself in the community, but plans to resume his place in the Congregational Church, Chamber of Commerce, on the golf course, etc. Al is definitely planning to come to the reunion. Possibly he will bring a selection from his collection of 1000 3-D color photos, which he made during his three years in Japan. Al comes back to the country with a real conviction that we all should be spending more of our time thinking of international affairs and working out some way to recognize their effect on our local situation so that some day we can figure out what to do before things happen.

Ted Freeman is Methods and Design Engineer for Bird and Son, Inc., East Walpole, Mass., where he has been employed in the Floor Covering Division for the last three years. Four sons, ranging in age from nine to 17, and a small farm keep the Freemans busy. They have thoroughly enjoyed restoring an old Cape Cod house. Ted's address is: 255 Fruit Street, Mansfield, Mass.

Best regards until next issue. — ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries*: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R. I., ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1934 •

Our Class President has an important announcement to make. Here is his message, under date of Sept. 16.

"Our Secretary has consented to let me lead off this year's Class Notes so I could break a piece of important news. I know of no better way than to plunge right in. It's this — we are aiming to raise \$100,000

as our 25-year gift to the Institute, presenting it as an endowment under the name 1934 Compton Scholarships! We want it to be extra giving, over and above our present 'normal' amount.

"This may sound overwhelming, but believe me it is quite within our capabilities. To many of you the project will be new news, but to others it will not be, for in our sampling survey last spring we divulged our prospective goal to some fifty classmates in order to gauge the degree of their support. By now, nearly twice that number know of the project for we have been setting up an organization. The support they have pledged is mighty encouraging.

"Let me go back a little and relate how this developed. At our Wentworth reunion, it seemed to me there was a latent conviction that the Class of '34 should do something for the Institute and that the time had come to do it. Others felt this same sentiment. Accordingly, the Class Officers and the Reunion Committee got together here in Boston for discussions. We reasoned that the Class would want to do something creditable enough so it could look on it and say — 'There, that job was worth doing.' So we met, we wrote letters, we tabulated returns and we planned how best to reach our classmates. Let me mention a few highlights.

"About 350 of us have shown active interest through contributions to the Alumni Fund or to the Committee for Financing Development. Consequently, we aim to present our Scholarship objective to each of these men individually, face to face if possible, or by personal letter if we must. We may be obliged to reach our 300-odd other classmates through central mailings. A Class Fund Committee consisting of men who attended the 15th and 20th reunions is being set up to carry out individual contacts. Ours will be a pyramid organization with a smaller Steering Committee in Boston.

"We will cushion the undesirable features of a one-year drive by spreading our giving between now and 1959. There are four calendar years, or five tax years in this interval and accordingly one may choose to divide his total gift into four or five parts. We will stress the five-payment idea.

"There will be no interference with the Alumni Fund. On the contrary, all receipts will be mailed directly to the Fund as heretofore and will be credited to the 1934 Compton Freshman Scholarships until June 30, 1959.

"Tech's obligation to turn out qualified men is steadily becoming greater. Yet it seems in some ways to be growing more difficult — especially regarding student expenses. Tuition will soon be \$1,100 per year but scholarship aid averages only \$54 per man per year. Here then is a wheel to which we can profitably put our shoulder.

"I wish you could see the letters we have received since setting this goal. Let me just mention two. Within a week of our first survey mailing, we received our initial spontaneous contribution to the Fund! And I had a grand letter from Dick Bell saying, 'I particularly like your suggestion of meeting with small groups (to

explain the fund objective). As you know, I cover a lot of ground and with very little effort I could and would make it a point to make stopovers and side trips to cover the proper points.'

"Our fund is set up. Our support is there. I am sure we will reach our objective. My best to you all in this coming year. Hank Backenstoss." — WALTER MCKAY, Secretary, Room 33-211, M.I.T.

• 1935 •

As you probably know the class held its 20th Reunion at the Chatham Bars Inn, Chatham, Mass., on June 11 and 12. What you probably do not know, if you did not attend, was that it was without a doubt the most successful Reunion we have held. There is no question in my mind that having our wives with us added measurably to the affair — fellowship ran high the entire weekend, even though the weather wasn't all to be desired. The officers for the ensuing five years elected at the Reunion were John H. Colby, President, Henry Fisk King, Vice President, Ernest Van Ham, Treasurer, and Francis W. Muldowney, Jr., Secretary. Further details of the Reunion and an official report from the class officers with reference to our 25th year gift will be sent soon to each member of the class. The following are the names of those attending the Reunion. If your name is not amongst them, shame brother, shame. Mr. and Mrs. William L. Abramowitz, Mr. and Mrs. F. L. Andreoli, Randolph Antonsen, Mr. and Mrs. John B. Ballard, Mr. and Mrs. Irving S. Banquer, Mr. and Mrs. Leo Beckwith, Hal L. Bemis, Mr. and Mrs. William F. Bennett, Mr. and Mrs. Ben Blocker, Chester Bond, Mr. and Mrs. Charles P. Bowen, Jr., Mr. and Mrs. Carson L. Brooks, Mr. and Mrs. Sam P. Brown, Mr. and Mrs. Justin H. Briefer, Mr. and Mrs. Jacob I. Castleman, Mr. and Mrs. David F. Cobb, Mr. and Mrs. Arthur H. Cohen, Mr. and Mrs. John H. Colby, Ned Collins, Mr. and Mrs. Buckley Crist, Paul W. Daley, Mr. and Mrs. P. N. Dangel, Mr. and Mrs. DeL'Etoile, B. Dudley Jack DuRoss, Mr. and Mrs. Ham H. Dow, Mr. and Mrs. Ed Edgar, Mr. and Mrs. Percy Ehrlich, Mr. and Mrs. Harold H. Everett, Al Fletcher, Mr. and Mrs. Ellis M. Flink, Mr. and Mrs. George R. Forsburg, Gale Forssen, R. W. Forster, Dr. and Mrs. George F. Gales, Paul D. Germond, Mr. and Mrs. Robert J. Granberg, Mr. and Mrs. G. Peter Grant, Jr., E. Donald Gittens, Lawrence C. Hall, Morton Hecht, Jr., Mr. and Mrs. Edward E. Helwith, Mr. and Mrs. Oliver Hoag, Mr. and Mrs. J. D. Hossfeld, Richard Hughes, Mr. and Mrs. Eric Jones, Mr. and Mrs. Robert K. Kennedy, Mr. and Mrs. Henry B. Kimball, Mr. and Mrs. Arthur M. King, Mr. and Mrs. Henry Fisk King, Mr. and Mrs. Palmer E. Koenig, Mr. and Mrs. Richard Lawrence, Mr. and Mrs. Hermann Laudani, W. B. Lauder, G. Fred Lincoln, Mr. and Mrs. Thorne McWhood, Vincent J. Mooney, Mr. and Mrs. Francis W. Muldowney, Jr., Mr. and Mrs. Bernard H. Nelson, Mr. and Mrs. Ernst A. Nordberg, Fred O'Brien, Paul C. Panagiotakos, Mr. and Mrs. G. N. Patitz, Mr. and Mrs. George A. Peterson, Mr. and Mrs. Joseph Raes, Chris Rafferty, Mr. and Mrs. George M. Reece, Mr. and Mrs.

Philip H. Rhodes, Francis B. Sellow, Herbert Small, Mr. and Mrs. Prescott A. Smith, Mr. and Mrs. Randall S. Smith, Vincent C. Sorrentino, Mr. and Mrs. Elmer Szantay, Mr. and Mrs. John E. Talbert, Mr. Edward H. Taubman, Mr. and Mrs. E. Van Ham, Mr. and Mrs. Dick Whitmore, Mr. and Mrs. Arthur I. Zich.

I have not included addresses and vital statistics on those who attended the Reunion but I will do so from time to time in the Review notes. Anyone wishing information about those listed above, please write and enclose information about yourself.

Bart Chapman, former class secretary, in turning over his material to me, writes as follows "By way of recreation, I race in Lightnings on the Sound, play some tennis and do a bit of station wagon camping with my wife and two youngsters. Businesswise I am still with Remington Arms as Asst. Chief Supervisor of Production Planning for the Bridgeport Works. Just now I am one of several line organization supervisors on loan to a company wide "Nite Grated Data Processing" study team. We are up to our ears evaluating and applying electro-mechanical and electronic computer systems of record keeping, reporting and operations analysis. Had to miss Reunion to attend Manufacturing Control School at IBM." E. Gelus, 939 Shattuck Avenue, Berkeley, Cal., Assistant Department head for Shell Development Company, was unable to attend the Reunion as he has been transferred to the Netherlands for two years. Major General Philip W. Smith of the United States Air Force had a very busy week last spring with three class Reunions coming within a few days of one another. He was commissioned at West Point in 1930, received his masters degree at M.I.T. in 1935, and his Master of Business Administration degree at Harvard in 1940. He made all three Reunions but could only make the tail end of ours at M.I.T. Alumni Day. Art Cohen, 51 Daniel St., Newton Centre 59, Mass., attended the Reunion with his charming wife, Joyce, has three children, one boy and two girls. He recently notified me that he has opened his own office for the practice of architecture. We wish him much success. The following class members who attended the Reunion, traveled 1,000 miles or more: Pete and Jane Grant, 24811 Nobottom Rd., Olmsted Falls, Ohio, have two boys and two girls. Jack and Betty DuRoss, 17221 Edgewater Dr., Lakewood 7, Ohio. Jack is head of John D. DuRoss & Co., Wholesale Grocers, P.O. Box 6839, Cleveland 1, Ohio. Pat and Dot Koenig, 525 Woodview Dr., Dayton 9, Ohio. Pat is with the USAF, Wright Air Division Center, and has two girls. Paul and Betty Daley, 1310 Garfield Ave., Aurora, Illinois. Paul is with the All Steel Equipment Office Furniture, and has one boy and two girls. Jack and Penelope Ballard live at 3526 N. Summit Ave., Milwaukee, Wis. Jack is Vice President of Sterling, Inc., Milwaukee, Wis., and has two girls and one boy. Buck and Carol Crist, 25 Kimberly Lane, Muncie, Ind. Buck is an engineer and has two boys. Phil and Lil Rhodes, 4354 Hamilton Ave., Cincinnati 23, Ohio. Phil is a consulting

chemist and has one boy. Art and Nancy King, 114 Travoir Rd., Louisville, Ky. Art is Vice President of the Mengel Co.—FRANCIS W. MULDOWNEY, JR., *Secretary*, 1109 Boylston St., Chestnut Hill 67, Mass.

• 1936 •

Keeping in mind our 20th Reunion next year, our Reunion Committee has been making progress during the summer. The Reunion Committee consists of: Reunion Chairman, Anton E. Hittl, Linde Air Products Co., 30 East 42nd St., New York, N.Y.; Treasurer, Marshall M. Holcomb, Aircraft Marine Products Inc., 2100 Paxton St., Harrisburg, Pa.; Chairman of Arrangements Committee, Pyam W. Williams, Robertson Paper Box Co., Montville, Conn.; Chairman of Publicity Committee, James H. Leary, Abbott, Merkt and Co., 10 East 40th St., New York, N.Y.; and Secretary (Temporary), Henry F. Lippitt, Dougherty and White, 30 Rockefeller Plaza, New York 20, N.Y.

On August 3, the Reunion Committee had a further meeting, discussing the fact that Weekapaug Inn could not make a definite commitment for the June 8-10 weekend in 1956 until possibly January or February of next year. The Reunion Committee therefore decided to canvass the possibility elsewhere and then make a decision as to whether to take a chance waiting for Weekapaug Inn or to make a definite commitment elsewhere. The alternative possibilities considered included the following: Chatham Bars Inn, Chatham, Mass.; Mayflower Hotel, Manomet Point, Plymouth, Mass.; Snow Inn, Harwichport, Mass.; New Ocean House, Swampscott, Mass.; Hotel Rockmere, Marblehead, Mass.; Toy Towne Tavern, Winchendon, Mass.; Wentworth-by-the-Sea, Portsmouth, N.H.; Boxwood Manor, Old Lyme, Conn.; The Griswold, Eastern Point, New London, Conn.; Sheldon House, Pine Orchard, Conn.

Generally, it was felt that working through personal contact and personal letters, most of the people who would come to the Reunion, would come because they knew their friends would be there.

At last, Mal Halcombe set the next meeting for September 21 at the Yale Club, Vanderbilt Ave. and 44th St., New York City, with the idea of moving ahead toward getting the plans organized during the fall and winter months.

Tony Hittl reported on his visit to Alumni Day in Cambridge in June.

At the banquet, besides himself, there were Bill Garth, Vince Estabrook, Harold Miller and Dorian Shainin from the class. George Parkhurst was also rumored to be at the luncheon, but Tony did not see him.

Bill Garth is heading up Photon, Inc. They are now at the marketing stage of their photographic type-setting equipment, and to hear Bill tell about it, they have a considerable backlog of orders. The stock is booming in the over-the-counter market. A clipping from the May Wall Street Journal states that "Photon, Inc. Predicts Loss from Operations in 1955, But Profit in 1956," and that William W. Garth, President, reported a nominal loss of \$12,599 in 1954.

Tony reported on Vince Estabrook in the investment counseling business saying

that he and Garth had their heads together quite a bit of the time.

Harold Miller has the job of putting up the new Sheraton Motel at Tarrytown. He is a little appalled with the magnitude of the undertaking, but looking forward to this job.

Dorian Shainin is in business for himself, consulting on statistical methods applied to quality control. He has recently completed a job for Joens and Lamson. The current joke is that once one of these systems is set up, it takes so much effort to keep the system going that the plant has to suspend production.

In the afternoon Tony saw Elliott Robinson at United Shoe Machinery. He is Assistant to the Manager of Market Research and has been applying mathematical methods to their operations.

Coming out of the Banquet Hall, who should be sitting on one of the chairs in the Statler balcony but Ed Dashevsky. Ed is with Raytheon at their plant in Bedford, Mass. and working on radar equipment.

Dick Denton, who was on hand for the Reunion Committee Meeting, tells of his partnership in Optical Film Engineering Co., 2737 North 6th Street, Philadelphia, where he has been for several years. During World War II, 1942-1945, Dick was an engineer at the Frankford Arsenal in Philadelphia working on optical problems. Since being married in Sept. 1939, he and his wife Virginia have two girls and a boy; Patricia, 14; Judith, 13, and Peter, 10.

Clax Monro, on the impressive stationery of Saint Stephen's Episcopal Church, 1805 West Alabama Street, Houston, Texas, mentions his work as Rector of the Church saying: "Only during the past year has my engineering training at M.I.T. come into its own in my thinking. At the present time the Churches are undergoing a much needed revolution in their thinking and it is a glorious day to be so situated that one can give that revolution a big shove ahead." Clax married Victoria Demarest in 1943 and they now have four children; Victoria Frances, 9; Mary Sutton, 6; David Claxton, 5; and Deborah Ann, 2. In addition to his other duties, Clax also is Director of Saint Luke's Hospital in Houston. As he told the Reunion Committee, he hopes it will be possible to work out a trip for the "get together."

Doug Cairns, President of the Champlain Oil Company, Inc., Burlington, Vt. (distributors for Cities Service Oil Co.) remarks on his activities as Chairman of the Vermont Petroleum Industry Committee and his capacity as New England Chairman for the Natural Gas and Oil Resources Committee. Except for some remarks as to the manner in which Bob Gillette became President of Rock of Ages, Doug is reserving the remainder of his comments for the class Reunion.

Bob Worden forwarded word on his work during the last two years with Mather Spring Company management and Union officials in helping to bring about the high level of industrial productivity and fine labor relations discussed in the Toledo (Ohio) *Blade* in February. The article pointed out that in 1952 Mather Spring's management could see trouble coming. Throughout the years it had

maintained a high level of quality in its product, but it had not kept pace with its competitors in improving plant efficiency and worker productivity. As a result, the Company's production costs and prices were drastically out of line with the rest of the automotive spring industry.

This, of course, caused union problems.

Clarence "Buck" Tucker, Chairman of the Mather Unit of UAW Local 12, later said, "We went to that first meeting determined that we would be nothing more than good listeners. We thought the company was just going to wave a crying towel at us."

"But the management went into every detail of the company's competitive situation and their proposed program. They told us how they needed our help, that they wanted to install a new assembly line which would mean retiming practically every job in the plant.

"They convinced us that they were sincerely asking our cooperation. We decided to go along."

In view of so many less happy labor-management situations that appear to be developing almost constantly, Bob felt that "The Mather Story" would make interesting reading.

Bob also presented an interesting paper on: "Basic Principles of Delegation and Control in Smaller Business" at the proceedings of the Twenty-Fourth National Business Conference of the Harvard Business School Association.

Gerald S. McMahon writes for the first time in a long time to say he is with Continental Oil Co. in Oklahoma. About four years of this period were spent in the Army. His wife and he have five children — boys 13 and 9 years, girls 7, 5 and 1 years old. They apparently keep pretty busy, and an Army Reserve program takes up what little spare time he has. He spent a week of vacation in Boston three or four years ago — ran into Vernon Osgood on the place going up. They only live 40 miles apart but never seem to get together.

Ed Rowe writes to say that after a long hitch at the Newport News Shipbuilding, he is now Planning Engineer at Electric Boat Company (General Dynamics), New London, Connecticut — working on submarines, nuclear and otherwise.

After a long period of silence, Dorian Shainin writes on the impressive stationery of the American Society for Quality Control, of which he is Vice President at 35 Lakewood Circle So., Manchester, Conn. Dorian says that after 16 years with the United Aircraft Corporation he "retired," becoming an industrial consultant with Rath and Strong, Inc., 140 Federal St., Boston, but still lives in Manchester, Connecticut, since "work" is in plants around the country. He apparently enjoys grappling with knotty problems in production, sales, and management, helping managers solve them by drawing freely upon methods of operations research and statistical engineering, and teaching such people the necessary fundamentals so they can continue to be more effective with their problem solving. As Dorian says: "While much of the last two and a half years have in this way been devoted to teaching, the reaction in the form of my personal learning has been substantial. I

have been working intimately in textiles, printing, paper manufacture, ordnance, gage manufacture, machine tools, aircraft accessories, silverware, and clocks. This work has led to lecturing before technical societies, at several universities, and participating in the American Statistical Association, Operations Research Society of America, and the American Society for Quality Control, at present being Vice President of this latter group of 9,044 people."

Dorie goes on to say that he and his wife Margaret enjoy living on the shore of a lake in Manchester ("city of village charm," he says) in a nine-room home they built six years ago on the slope of a wooded hill. Five children range from Peter 12, to Ellen Marie, 5 months. In between come Carole Anne, Beth, and Dickie. While having two cars is not unusual these days, it may be of some interest that his are both Nash Ramblers and they fit end to end in an elongated one-car garage.

Dorie reports that while teaching at the University of Connecticut in April he spent part of the evening with Alice Hunter Kimball and her husband, Prof. George Kimball of Columbia University, who was a guest lecturer there on operations research. She looks fine (almost no change in the nineteen years) and is actively keeping up outside interests despite bringing up a boy and three girls. Dorie ends with "Best regards, and looking forward to our twentieth!" — HENRY F. LIPPERT, 2nd, Secretary, 30 Rockefeller Plaza, Rm. 3123, New York 20, New York.

• 1937 •

Last Friday and Saturday, September 9 and 10, I had the great pleasure of attending the first Alumni Officers Conference held at the Institute — partly in the new Kresge Auditorium and the Hayden Memorial Library as well as other locations. Actually it was with somewhat a feeling of shock that I saw the tremendous progress that has been made since we left in '37. To be sure we have had pictures, descriptions, and other types of publicity describing all of the advances in physical plant, planning and curriculum; but this exposition at the conference brought home in an overwhelming way the immensity of the program. There is only one way to get the complete picture and that is to go back and spend time seeing and hearing for yourself.

Phil Peters and Wally Wojtczak were the other representatives of the Class of '37. Wally has been very busy in and around Hartford with the flood damage. His contracting firm has been trying to maintain some sort of schedule on present contracts and at the same time do their share in the repair and rebuilding program.

On Alumni Day, June 13th, Joe Heal, Curtis Powell, Leonard Seder, Goodwin Gay and Wally Wojtczak registered as attending the festivities at the Institute.

Bill Bergen has been elected Executive Vice-President of the Glenn L. Martin Co. In addition, he continues as Vice-President in Charge of Operations. As you will recall, Bill has been with Martin since graduation and is credited with introducing the company's system's engineering

concept, now in wide use in the aircraft industry. Stephen MacNeille is director of research at the American Optical Co. at Southbridge, Mass. He was with Eastman Kodak Co. until '43 when he was loaned to the Manhattan Project. He was at Oak Ridge, Tenn. until '48 when he returned to Eastman. He has been with American Optical since '53. Dr. Gouq-Jen Su is Assoc. Professor of Chemical Engineering at the University of Rochester, (N.Y.) He is also acting chairman of the chemical engineering department at the University. Dr. Su became a U. S. citizen on April 19. Both he and Mrs. Su were naturalized on that day. It was the first time in the history of the naturalization term that both a man and wife had been naturalized at the same time.

Phil Peters and I were discussing the Reunion for '57 and we decided it was time to make reservations so that we would be sure and have a desirable place. I will be glad to pass along any recommendations any of you fellows might have — with the exception of your old home town. — WINTHROP A. JOHNS, Secretary, 34 Mail Drive, North Plainfield, N.J.

• 1938 •

For your secretary the fall season of Alumni activity started with the first annual Class Officers' Conference on September 9 and 10. The class was well represented with Lou Bruneau, Tenny Clough, and Bob Johnson also in attendance. Even with frequent contact with the Institute, I find a meeting of this type to be enlightening.

Alumni Day also saw a sizable delegation from '38. Those who registered were: Mr. and Mrs. Louis A. Bruneau, Mr. and Mrs. Haskell R. Gordon, G. Edwin Hadley, David L. Morse, R. Gretchen Nelson, Mr. and Mrs. John J. Phillips, Donald P. Severance, Edward K. True, Albert O. Wilson, Jr.

A news item notes that Howard Milius is now manager of product development of the Millmaster Chemical Co. He left Humphrey-Wilkinson to take this position. Brig. Gen. Kenneth E. Fields has resigned from the Army to become general manager of the Atomic Energy Commission.

We have notes from a couple of our classmates. Bob Elliott writes: "Am happily settled, permanently I hope, here in Phoenix, where sunshine is more plentiful than anything else, and where the only thing to be desired is a larger and more dependable source of water. Perhaps our new Compton Laboratory may bring us a method of converting sea water through atomic power to something suitable for agricultural use. Much of the mineral content of the water would be beneficial to the soil. Our family has grown to five children — 4 girls, 1 boy. Am associated with the Fisher Contracting Co."

Isaac Schwartz reports: "Still have only 3 children, am still working for my family at H. Schwartz & Sons, Inc. (lumber, hardware and appliance). Nothing more to add for now."

Bert Grosselfinger is forming a habit I wish more would adopt. He occasionally sends a card letting me know of his whereabouts. Recently one arrived from Lucerne, Switzerland. Your own travels

need not be as extensive to warrant a note for the class. — DAVID E. ACKER, General Secretary; Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

• 1939 •

Since last report the airmail has functioned well and reports come to us in Los Angeles that Wiley and Phyllis Corl are the proud parents of number six who arrived on April 26, 1955 and who was named Glen Austin Corl. All our best wishes go to the proud parents and, if my memory serves me correctly, this puts the Corls out front in the Class of 1939 for production records.

While in San Francisco recently I had a very pleasant luncheon with John Renshaw, at the University Club. John has just completed a year as officer of the University Club and has managed to wedge in these duties in addition to his others as investment counsel at San Francisco. Weekends, John ranches in California and I believe is raising some cattle and some walnuts. In Seattle, about a week or two ago, I telephoned Jim Barton, who is comptroller of the Boeing Aircraft Company and I was disappointed to find he could not talk to me because he was in a conference some place.

We have just received a letter from Warren and Lillian Evans and excerpted part of it as news of general interest: "Since Lillian and I enjoyed that pleasant evening with you and Hilda at the Multanoma Club at Portland, we also have changed our address as can be noted above (6891 West 72nd Terrace, Overland Park, Kansas). After 5½ years with the Atomic Energy Commission as Chief of the Construction Branch of the Idaho Operations Office, I decided to return to private industry. I am now associated with the J. F. Pritchard and Company of Kansas City, Mo. We are architects, engineers, and constructors in the petroleum, chemical, natural gas, and power fields, as well as manufacturers of special equipment. My assignment is that of coordinator of engineering, construction, and purchasing for all but the equipment division.

From San Rafael, Calif., comes another note from Mrs. Mary S. McKinnon, nee Mary S. Kilgore, Course IV: "Thank you for your card regarding the Class of 1939. Yes, you have the correct address, at least for the moment (and we will be coming back here in February 1957.) However, in a month or so, expect to leave and join my husband in Bremerhaven, Germany. He was taken into the Army Dental Corps in February of this year, for a two-years period. Our address there will be c/o Captain Kenneth L. McKinnon, o-1786848, 33rd Station Hospital, APO 69, New York, New York. We are certainly looking forward to a most interesting and exciting stay there. We have an addition to our family, also as of February of this year! Our small Sara Helen arrived on February 23 (while her father was at Fort Sam Houston, Texas), and will go to Germany with the rest of the family, which includes Elizabeth Anne, 11; John, 9; and Susie, 5½. Sincerely, Mary S. McKinnon."

Another letter from the services is from Daniel F. Rex, Commander, who writes:

"I have your postcard and can bring you up to date by saying that I am a former Course VI student but became separated from electrical engineering by the recent World War. After graduation I spent a year as a teaching fellow at the University of Tennessee and was called to active service in the Navy soon after I received an M.S. degree from UT. I have been in the Navy ever since having transferred to the "regulars" soon after VJ Day; the Navy made a meteorologist out of me which is my present specialty. I am married and have a family of one son and two daughters. Home address: Quarters G, Naval Air Station, Navy 128 FPO, San Francisco, California."

Finally, for news of other schoolmates, I can say that I telephoned Nils Rosenberg '40, in Seattle a couple of weeks ago, but found the Alexander Botts of the Pacific Northwest was out chasing up new business, so I didn't have the pleasure of hearing his voice. Janet (nee Davidson), Wellesley Class of '40, could not be reached by phone at home, so I assume that she was busy playing bridge or else scraping and re-varnishing the hull on Nils' starboat. Bob Godfrey '41, has moved from Berkeley to Livermore where he is working as a physicist at the Atomic Energy Laboratory there. And finally, in Portland, Mal Watson, Class of '34, and Betty Lou announced the birth of Willie Malcolm. About a year and a half ago I traveled to Victoria, B.C., the home of Betty Lou Horton and when she married Mal Watson I was best man at the wedding — although I must say in all fairness, that Mal still contests this assertion.

News for the summer usually is thinner, but I have heard from Bob Touzalin who is with Arthur G. McKee in Cleveland. Bob, Aletta, and their 4 youngsters, including twins, have been busy moving into a new house and doing a lot of the interior work as well. To get an idea of how hard Bob is working he writes that his household tasks have taken so much time that he hasn't even played golf, with the number 16 green only 100 feet from his back door.

Bob has been with McKee for 16 years and has worked on projects related to the steel business.

From New York Bob Schmucker writes, "I am now in charge of metallurgy for the cold-rolled strip division (of Crucible Steel Company) at Harrison, New Jersey. I haven't seen too much of the M.I.T. group in this area but I did see Hans Otto, Chappie Halstead and Del Churchill recently at Hans'. I also saw Roy Hopgood, Alice and family of four a few months ago in Glen Ridge.

Two weeks ago I spent a very enjoyable Sunday at Los Altos, California where, at 858 East Fremont Road, I saw Jack '46 and Jerry Ingersoll. Jack is busy selling for Neely Enterprises, electronic control instruments for industrial applications. Last December 31st Jack and Jerry became the proud parents of a son named Jonathan Glen Ingersoll.

On the same trip to the Bay Area during breakfast at one of the hotels I was pleasantly surprised to hear my name called and looked across the room to see Stan Zemansky '37. Stan was in town for the electronics convention.

On the home front Hilda and I have moved into a new house at 416 Calle Mayor, Redondo Beach, California, and are busy getting settled. On Sunday August 7th we were delightfully surprised when both the Bob Fife's and the George Cremer's arrived unexpectedly, and within five minutes of one another for a short visit. It turned out that Bob lives just two blocks from us and we have seen Bob and Maisie since. Bob is practicing law in the Los Angeles-Long Beach area. George Cremer and Billie were north from San Diego on a visit. George wanted me to correct a statement which I made in the past about his waffles. You may remember that I mentioned that George had been active in the development of a honey comb waffle-type metal sandwich which has great strength and which is lightweight. George wanted me to say that this sandwich is made of steel alloys and not aluminum. — HAROLD SEYKOTA, *Secretary*, c/o R. T. Collier Corporation, 714 W. Olympic Boulevard, Los Angeles, Calif.

• 1940 •

The 15th Reunion on June 10-13 at Snow Inn, Harwichport, Mass. will long be remembered by those who attended. It was unanimously agreed by the more than 100 present that this was our finest reunion so far and plans are already under way to top it with our 20th, five years hence.

The new officers elected at the reunion are Russ Haden, President; Frank Penn 1st Vice-President; Bill Kather, 2nd Vice-President; Al Guttg, Secretary-Treasurer; Marsh McCuen and Sam Goldblith, Assistant Secretary-Treasurers. Hap Farrell was unanimously elected President ex-officio in recognition of his long and faithful service as President. Although it was a little too cool for swimming and, due to rough weather, several of the sailings had to be cancelled this did not seem to dampen spirits nor did the rain which necessitated the calling off of the softball game on Sunday afternoon. Officially the reunion started on Saturday but almost half of the folks came on Friday night to indulge in an old fashioned bull session in the Captain's Quarters.

The food was scrumptious and possibly the highlight of the entire affair was the banquet on Saturday evening with choice of lobster, steak or both as the entree. Seconds and even thirds were available and consumed by those not on rigorous diets. In token of his role at the tenth reunion at which he also served as Chairman, Bob Bittenbender was served a portion of "sparrow." This was a reminder of the fact that the steak at the tenth turned out to be small portions of chicken, just sufficient to feed a sparrow. Bob will not have to suffer a similar fate at the 20th reunion. Everyone was furnished with a lobster bib with an appropriate reunion motif designed by Chic Kane '24, printed thereon. These doubled in brass as souvenirs of the Reunion and there are still a few available from Bob Bittenbender for those who want extras for the fifth and sixth youngsters. The banquet at the Main House was followed by dancing at the Beach House.

Another highpoint of the weekend was the clambake held in the Beach House on

Sunday afternoon, theoretically scheduled for 6:00 P.M. but due to errors in the slide rule calculations actually begun at 7:00 P.M. The hour delay merely whetted the appetites for more of the delicious clams, lobsters, corn and watermelon. About half of those present returned home either Sunday afternoon or immediately after the clambake. Those who stayed over until Monday will long remember "Bob" Godfrey's renditions of Little Albert and Sam Small poems, complete with accents, in the Captain's Quarters after the clambake until 2 o'clock in the morning.

Everybody present at the reunion had to fill out a questionnaire which resulted in some rather interesting results. According to available statistics 10 per cent of the people in the United States never marry. Our class has broken this average to smithereens as every classmate at the reunion was married. The class is well ahead of the National Collegiate average with 2.5 children per family at present. Boys slightly outnumber girls in conformity with the national picture. Wally and Peggy Suchard are in the lead with six children although Russ and Corrine Haden at last count had four with one, or possibly two, on the way. As was fitting to her position as "class mother" Peggy celebrated her birthday during the reunion. The average length of time of marriage was 10.5 years, indicating a desirable permanence tendency, and the average length of time in job with the present company was 7.6 years. Of those attending the Reunion 5 per cent were in research work, 14 per cent in development, 5 per cent in production, 15 per cent in sales, 22 per cent in engineering, 36 per cent in administration, 2 per cent in banking and 2 per cent were attorneys. All but one stated if they had to do it again they would go to Tech and 88 per cent said they would send their son or daughter to Tech. However, 28 per cent indicated they would select different courses. A large majority were in favor of the increased current emphasis on Humanities.

Travel honors were divided. Pete Norton who came with his wife and three children from New Orleans had family honors with a total of 9000 miles while individual honors went to "Bob" Godfrey who traveled from sunny California to brave the rigors of June on Cape Cod. Raef Martinez went the longest distance over water, travelling 1900 miles from Puerto Rico. Raef put in a pitch for having the next reunion in Puerto Rico by offering free airplane transportation. Other long distance travelers were Dave Morgenthaler 1500 miles, Frank Penn and Phelps Walker each 1400 miles and "Beano" Goodman and Jack Martin each 1000 miles.

In answer to the question as to gain in weight since graduation Pete Norton and Al Guttg were tied for "honors" with 50 pounds. However, Pete and Al stoutly maintain that they were the only ones who gave honest figures. Beano Goodman was runner up with 45 pounds and Dick Berry and Bill McDonald were next with 40 pounds. Surprisingly two classmates lost weight since graduation, Phelps Walker losing 5 pounds and Dick

Gladstone 10 pounds. Both vehemently denied this was due to their wives' cooking. It was further calculated that the average number of pounds gained per inch of hair lost was 17.3.

In the pet department, dogs had a slight lead over cats and birds outnumbered bees 4 to 1. No record was kept of flowers. Joe Owens owns three horses but has no Kentucky Derby winners yet and Russ Haden has sheep on his farm. One classmate had a burro and one collected snails. Almost everyone reached the reunion by car although three flew in Joe Owens' plane. The golf match at the tough Eastward Ho course was won by Wally Schuchard but Bob Grosselfinger astounded everybody by finishing third under very trying circumstances. Bob did not use club but threw the ball and was automatically given two putts per hole. Bob needed 35 "strokes" in addition to the putts and averaged over 100 yards per throw. Beano and Mrs. Goodman won honors in the bridge game. Bob Grosselfinger was voted to be the classmate who changed the most since graduation and Tom Creamer was runner up.

The Reunion Committee headed by Bob Bittenbender with Russ Haden, Vice-Chairman; Doug Eckhardt, Secretary; Jack Gray, Treasurer; Dick Berry, Wally Schuchard, Phil Stoddard, Arnie Wight and Dick MacPhaul members along with Hap Farrell and Jack Danforth, ex officio members, certainly deserves the congratulations of the class for the wonderful job they did in ensuring a pleasant and well planned affair. In addition to the committee members and their wives those attending were Beano Goodman, Joe Paine, Dick Gladstone, Ed Adams, Al Gutttag, James Gilman, Ted and Edith (Cameron) Kingsbury, Dick Babish, Louis Michelson, Paul Bollerman, Barry Taft, Larry Bernbaum, Bill Kather, Jimmy Baird, Phelps Walker, Bob Hess, Frank Penn, Bill McDonald, Al Castle, Raef Martinez, Jim Rumsey, George Wolfe, Bob Grosselfinger, Dave Morgenthaler, Paul Witherell, Al Norton, George Kaneb, John Piotti, Bill Hagenbuch, Joe Jefferds, Tom Creamer, Kappy Kapinos, Dick Powers, Joe Owens, Sam Card, Hy Freedman, Bob Godfrey, Al Wu, Divo Tonti, Harry Cottle, Jack Martin and Maury Baer. Except for Kapinos and Godfrey all were accompanied by their wives.

Alumni Day on June 13 was somewhat of an anti-climax after the reunion although quite a few classmates attended both the Reunion and Alumni Day Activities while a few who were unable to get to the Reunion were present on Alumni Day. '40's representatives on Alumni Day were Marvin Abkowitz, Ed Adams, Dick Berry, Bob Bittenbender, Jack Danforth, J. B. Feldman, Hy Freedman, Beano Goodman, Jack Gray, Milt Green, Bill Green, Al and Mrs. Gutttag, Russ and Mrs. Haden, Bill and Mrs. Hagenbuch, Bob and Mrs. Hess, Les Higgins, George Kaneb, Bill Kather, John Kapinos, Dick MacPhaul, Raef and Mrs. Martinez, Jack Piotti, Jim and Mrs. Rumsey, Wally Schuchard, Ferdi Stern, Phil Stoddard, The Barry Tafts, The Phelps Walkers, Worden Waring and Arnie Wight.

Along with such glad tidings it is with deep regret that the death of another

classmate must be reported. William R. Schuler died on May 9, 1955. Your Secretary has no further information as to the cause of death or as to Bill's activities since graduation.

Milt Green is now the proud father of a girl, Deborah Lee, and Arnie and Shirley Arch are making their grapefruit come out even again by the addition of Michael Ephraim to their family. Al Barton has been appointed head of the newly formed electronics division at the Elgin National Watch Company. Al will direct operations of the three West Coast plants of Elgin and will be in charge of electronics work at the company's other plants. Previously he was assistant general manager of Elgin's ordnance division. Al will continue to reside at Wayne, Ill. Bob Harper has been elected vice-president and general manager of Greenfield Tap and Die of Greenfield, Mass. Jim Fifield has joined International Selling Corporation as staff metallurgist. Previously he had been with the Ductile Iron Foundry, Inc. Captain Charles Booth had the honor recently of commanding the first escort carrier ever assigned by the Navy, equipped with anti-submarine airplanes. Bill Dooley has been elevated to the new position of product technical supervisor for staple and tow at American Viscose Corp. at Marcus Hook, Pa.

Just as this column was in the process of being prepared Ted Kingsbury sent the Secretary a clipping from "True, The Man's Magazine" on William Zeckendorf, America's most imaginative real-estate operator. The article also includes a picture of our own Ieoh Ming Pei who is the chief architect in the Zeckendorf organization as previously reported in these columns. Some of Ieoh's more revolutionary ideas such as the "Helix," a novel concept in apartment living are also mentioned in the article. The concluding notes in the column are the contribution of Sam Goldblith, our new Assistant-Secretary. This is indeed a fine start for Sam and now it is up to the rest of you to keep the Secretaries supplied with information.

The Assistant Secretary received a visit from John MacKerron who is now with the Quaker Maid Laboratories of A & P. Phil Stoddard, up until recently, has been Associate Placement Officer at M.I.T.

As a result of the departure of Bill Weems, Director of the Industrial Liaison Office, Phil has been appointed acting director of I.L.O. This office has become of increasing importance to the Institute in maintaining close liaison with industry and thus increasing the effectiveness of our teaching and research program at the Institute as well as helping to provide funds for M.I.T.

Dr. Myer Sharpe (VII) has become a radiologist and practicing in Northampton, Mass. Clint Powell (VII) has been an Officer in the U.S.P.H.S., and has recently passed his specialty in radiology also. Herb King (VII) has become associated as a Food Technologist with Suffolk Farms in Boston to Dr. Ernest R. Barron, who received his Ph.D. with our class and who is Laboratory Director of the First National Stores in Boston, has been elected to the position of Secretary of the Northeast Chapter of the Institute of Food Technologists. Sam Goldblith has been

elected Vice Chairman for this year, and recently was also appointed Executive Officer of the Department of Food Technology at the Institute. — ALVIN GUTTAG, Secretary, Cushman, Darby and Cushman, American Security Building, Washington 5, D.C.; MARSHALL D. MCCUEN, Assistant Secretary, General Motors Corp., Oldsmobile Division, Lansing 21, Mich.; SAMUEL A. GOLDBLITH, Assistant Secretary, M.I.T. Department of Food Technology, Cambridge 39, Mass.

• 1941 •

Plans are progressing nicely for the big event of 1956, the Fifteenth Reunion: the place, The Mayflower Hotel, Plymouth; the dates, June 8, 9, and 10. More detailed information should have reached you before this; if not please let me know.

I managed to pay a visit to Bill and Dot Fox during a trip to Baltimore in September. Bill is still in the Bethlehem Sparrows Point shipyard, and is responsible for procurement of all outside vendor equipment having a rating, such as motors, boilers, heat exchangers, winches, and the like. His hobby is tropical fish, for which he has several tanks in the living room. John Macleod is now in the G-E technical recruiting office in New York City. An inquiry brought from his secretary the reply that John was putting in twelve hours a day, five and six days a week. Take it easy, John, and let's hear from you. Walter Lob has been promoted to associate professor of research in communications in 1953.

Saul Gifford has been made director of the medical instrument division of the Colson Corporation of Elyria, Ohio, which firm produces a line of electronic instruments including an automatic blood pressure recorder and a device used in the measurement of the flow of blood from the heart. Saul joined Colson after seven years at the National Bureau of Standards. Bill Ahrendt's firm, the Ahrendt Instrument Co., of College Park, Maryland, has become a wholly owned subsidiary of Litton Industries of Beverly Hills, California. Bill will remain as president and will become an executive of Litton. He is, to quote the Washington *Post and Times-Herald*, "a recognized authority on automatic controls and the author of several books on the subject." His company has 175 people, and totalled sales last year of almost two million dollars. The output is in servomechanisms, automatic navigational equipment, computers, plotters, and other such devices. Bob Mayer spoke on "A Decade of Guided Missile Progress" at a dinner meeting of the A.I.E.E. in Worcester last spring. He has worked on automatic fire control systems and high performance missile systems, and two years ago was made consulting engineer in the G-E Guided Missiles Department in Schenectady. He and Hal Chestnut '39 are the authors of a book on "Servomechanisms and Regulating System Design." Commander Frank Menefee has been transferred from the Navy Bureau of Ships in Washington to the Mare Island Shipyard in Vallejo, California. Present at Alumni Day on last June 13 were Ed Beaupre, Mike Driscoll, Rogers Finch, Alvin Hartman, Don Howard, Lew Jester, Dick and

Mrs. Kolk, Ed Marden, Max Schweinshaut, John Sexton, and Reid Weedon. — IVOR W. COLLINS, *Secretary*, 28 Sherman Road, Wakefield, Mass.

• 1942 •

It has been a hot, wet, long summer in Boston but it was gaily and interestingly closed with the First Alumni Officers Conference. This was truly an outstanding gathering and one sure to be repeated year after year. Many many changes have taken place since we arrived just sixteen years ago in the middle of or just on the heels of a hurricane (then unfeminized). Not only have the horizons of education and research been broadened immensely but also Tech has acquired, despite its growth in population and responsibilities, an air of dynamic activity and the warmth of a university community. The intellectual competition is, if anything, tougher than in our day, yet the Faculty-student contacts are more numerous and on a far more personal and helpful basis. Even with higher academic standards the failures are fewer — largely because of more effective teaching and faculty counseling. The research programs described to us and the labs open for inspection testified to the importance and scope of both the theoretical and applied work. Physically, many buildings, both functional and attractive, have been added to the evermore-crowded campus yet more needs must be met and more facilities provided. Of particular significance is Tech's growing interest and activity in medical research programs. These call upon the disciplines of biophysics, biochemistry, nuclear science, high voltage radiation, and even industrial management.

On the lighter side I discovered a sure-fire method of extracting the personalia of the Class of 1942. It is painlessly simple; all we need is a pre-dinner cordial colation, preferably at Dr. Killian's house. Among the Alumni Club Officers and members of the Educational Council present were: Jack Flipse, now with Sperry-Rand; Steve Farington, V.P. of S. J. Farington Iron Works in Brooklyn; Steve Hazzard who runs his own architectural office in Warrington, Pa.; Bob Keating, a research project director for Olin-Matheson and V.P. of the M.I.T. Club of St. Louis; Harvey Kram, Marsh McGuire, and Jack Sheets.

After a sumptuous buffet supper at Walker, Harvey brought us up-to-date starting with his marriage to the former Elly Levine (Simmons College '43) in June 1942. The Krams have two children, Leonard William, 10, and Kathy Ellen, 5. Harvey is now in charge of manufacturing and personnel for the Leviton Manufacturing Co. of Brooklyn, which has branch plants in Providence, Chicago, Los Angeles, and Montreal. He was recently elected Treasurer of the M.I.T. Club of New York and has been active for some time on the Wiring Devices Standards Committee of the American Standards Association. In what little spare time is left he shoots with the Roslyn, L.I., Rifle Club and motors around Long Island Sound in a Morgan Skiff called the "Elly."

Some years ago Marsh McGuire married the former Mary Coffey and acquired

parental responsibility for Michael, Brian, and Timothy now aged four, two, and four months, respectively — "real mulligans with big appetites." He is presently with the Utica Drop Forge Co. as resident representative at Pratt and Whitney Aircraft in East Hartford and is operating from his dining room table. "The McGuires are desperately house-hunting for a dining hall or dormitory to house the brood." Marsh is in his second term as President of the M.I.T. Club of Hartford after having been V.P. for two years.

It's not only that absence from Walker makes the heart and palate grow just a little fonder — there's been a real change. Jack Sheets, of squash racquets, physics, and Navy fame, and most recently the fire and spirit behind putting the elegant new Kresge Auditorium into shape, has now had Walker Memorial assigned to him. First he relit, restored the mural, redecorated, refurnished, rewired and painted the building and now he is reviewing the chefs, seasoning, food, and dieticians with an eye to making the fare more like Durgin and Park's and other fine local eating establishments. I know we all wish him well and look forward to more splendid spreads like that of Friday, September 10th.

New family news records that Dave and Arline Nicholson became the proud parents of Lorel last June, shortly after having moved from the heart of New York City to Great Neck, L. I.

Alumni Day in June brought together Lou Arnold, Campbell Brandon, Al Dengler, Bill Dennen, Stan Golembe, Paul Hotte, Jack Kline (our host in the absence of Mr. Haffenreffer), Milt Platt, Bill Rote, George Schwartz, John Thacher, and Carl Zeitz.

By way of the Alumni Office we have learned of the promotion of W. Kenneth Davis, '40 to Director of Reactor Development for the Atomic Energy Commission. He will have charge of A.E.C. work on atomic engines for airplanes and naval vessels, and on nuclear reactor power. Other responsibilities of the post include A.E.C. programs to encourage private industry and public organizations to take part in the development of devices and processes for atomic electric power. Kenneth took his master's degree with us (after undergraduate work at the University of California) and then served as professor of engineering at the University of California. He later was research manager from the California Research and Development Co. before joining the A.E.C. in April, 1954.

The Sommersworth, N. H. Plant of the General Electric Co. recently announced that Edwin B. Judd has been appointed design engineer in Single Phase Meter Engineering. Ed's posts with G.E. include research in Schenectady on voltage regulation, supervisor of the creative engineering program, and appliance control design in Moline, Illinois. The Judds have three children, David, 6, Barbara, 3, and Bradley, 9 months. Ed's outdoor life includes membership in the National Speological Society, hiking above ground, and skiing.

The new general manager of the Seiberling Rubber Company's Plastics Division in Newsomertown, Ohio, is Harry

M. Zimmerman who received his master's degree with us. Before joining Seiberling, Harry was employed at the B. F. Goodrich Chemical Co. in Cleveland as a development engineer, technical service representative, and sales representative. He is a member and past treasurer of the Akron Section of the American Institute of Chemical Engineers and is also a member of the Society of Plastics Engineers.

John E. DeMoss has joined the Small Aircraft Engine Department of the General Electric Co. in West Lynn, Mass. The big move of the last few months was by James Critchlow, '45. He now resides at Lorenzstr 72B, Munich, Germany. George Schwartz was recently elected president of the Brotherhood of Temple Shalom of Newton, Mass. Bill Pease is now with Feedback Controls, Inc. of Alexandria, Va.; Francis G. Miller, Jr., has moved from Staten Island, N. Y., to San Francisco and beyond (MSTSWPA, c/o FPO); Capt. William N. Richardson is now in Ft. Myers, Fla.; and Russ Estelle is in Milford, Conn.

It is our sad duty to record the passing of Dexter R. Wells, late of New York City last April. He will be missed but long-remembered by his classmates in Architecture, the brothers of Phi Gamma Delta, and those who had the pleasure of working with him in his many extra-curricular activities.

Held over under next month is a feature article by the Financial Editor of the Cleveland, O. *Plainedealer* about the progress of the Steel Improvement and Forge Co. under the presidency of Charles H. Smith, Jr. Also planned for the December issue is a personal interview (by one H. Katherine Smith, not me) of Ronald Shainin and the pet boa constrictor he quarters in his living room. Best wishes for a gay sunny football season. — LOU ROSENBLUM, *Secretary*, Photon, Inc., 58 Charles St., Cambridge 41, Mass.

• 1943 •

During the summer I received some wonderful letters from classmates from all over the world. Before passing on their stories to you, however, I'd like to report that the following were present at the June reunion in Boston: Howard W. Comey, Fred Perry, Gus Calleja, Bob Gunther, Jim Hoey, Ira Cruckshank, Bob Hewes, Kemp Maples, Leo Fitzpatrick, Martin Winter, and Bert Picot '44 and Ray Richards with their wives. At this reunion banquet our gang decided that next year we would have a cocktail party before the affair in combination with the classes of 1944 and 1942.

I received the following letter early in June from Ray Richards: "While I can't answer 'yes' to any of the questions on your recent card, I believe I had better write something to forestall your threat of more 'worse-verse'."

"My work doesn't carry me 'round Cape Horn,' but it did take me by air to Lima, Peru, last March. I spent an enjoyable week in Lima and an interesting week at the metal mines on top of the Andes. Conditions at the mines were not especially primitive, but with most of the mines at 12-16,000 feet altitude, the trip necessarily was a bit rugged. While I was 'up the hill,' the worst floods in 30 years

washed out all communications back to Lima and gave me a memorable adventure. Even during my Marine Corps training days, I never hiked so far as I did one day during the return to Lima. I certainly had a good look at Peru! One compensation was that the walk gave me a splendid opportunity to take many unusual color photographs.

"While in Peru I had the good fortune to meet Alfonso Ballón who received his masters in metallurgy with our class and who now has an office as a mining and metallurgy consultant. Alfonso was very kind to me because of our mutual M.I.T. background.

"On May 7, I attended the Course XV Alumni Conference at Tech in honor of Professor Schell and was surprised to find a good turnout of 1943 men. I met Dick Ackerman who is with Sylvania in Boston, Jim Casserly, who manages one of Johnson and Johnson's plants in New Brunswick, N. J., Leo Feuer who is with the Carter knitwear company in Needham Heights, Mass., George Musgrave, who is with Knox Enterprises, sales management consultants, in Toledo, and Andy Obes, '44 who operated a trucking and rigging business in New York and who has developed some very intriguing schemes for combining the best features of rail and truck transportation into a new transportation system. In the evening Mrs. Feuer and Mrs. Obes helped give the dinner meeting a brighter note. All of us had a great time reminiscing.

"Last week I spent a few days in Cleveland and had a very pleasant breakfast meeting with Stan Proctor. Stan is very enthusiastic about his own business which he organized to distribute hydraulic and pneumatic components to industry. His company is still an infant of four months, but it appears headed for a long life.

"Occasionally I see Jim Hoey, Fred Perry and others at Alumni Council meetings or other events around Boston, but I have no special news about them.

"I have heard somewhere that you are doing very well with your practice, and I wish you continued success. You are doing a good job with the Class Notes, considering the paucity of communications sent to you. I hope your postcards stimulate more letters, as they did this one, so that next year the notes will be fuller and more interesting than ever."

Pete Gratiot wrote from Woodstock, Vermont that he and his wife and family moved there about a year ago. His firm is The Gratiot Engineering Company. He wrote, "Last September I hung out my shingle as a consultant and am trying to see if we can make ends meet working in this New England area. We find life up here very pleasant, with almost enough time for the outdoor activities which one associates with living in Vermont, but even here the days are never quite long enough for everything that you would like to do." Also, in June I received a postcard from Harry and Sue Ottinger who advised me that they have moved to Red Coat Lane, Westport, Connecticut, after twelve years in Baton Rouge, Louisiana. Harry is now with Standard Oil of New Jersey at 30 Rockefeller Center in New York.

Also in June came the following letter from Leo Fitzpatrick, "Your (?) poetic ef-

fort on the recent postcard inspires me to at least reply, even though I haven't any real news. I imagine my case history is fairly typical: it includes three years in Uncle Sam's Navy, two years discovering that pure engineering and 'big company' employment aren't for me and nearly seven years with my present employer, N. E. Engine and Parts Co., Incorporated, where I'm sales engineer on industrial engines, fluid couplings, clutches, torque converters, engine-generator sets and sundry lesser lines. I'm married eleven years, have two boys, eight and five; I'm a 'do-it-yourself' homeowner; and I'm constantly trying to figure how to get more time to improve my still sad game of golf! I don't see too many of our classmates except at reunions, and since my check for Alumni Day reservations is going out in the same mail with this letter, I can honestly say 'I'll see you June 13th! So long until then, Dick.'"

Jim Hoey received a letter from Oivind Lorentzen, Jr., as follows, "I am just cleaning up my desk prior to going to Norway for a combined trip and find your circular of April 20 among the papers. I have now bought a house in Greenwich, Conn. and moved there over the Memorial Day week-end. If the excerpts from Dr. Compton's speeches are still available, I should very much like to receive a copy. I hope you will have a pleasant summer."

Barry Russell wrote the following letter to me in July, "I read your plea for more news for the M.I.T. *Technology Review* and I thought I would try in my own small way to contribute a little something. After leaving Tech in '43, I went with Standard Oil Development and got married the following year. My wife and I have two boys, ages 2 and 6. I left Standard Oil Development in 1950, and went with the DuPont Company in their Petroleum Chemicals Sales Division. After initial training in Wilmington, I was assigned to the Central Region with headquarters in Chicago, where I stayed for three years. During 1953 and '54, I spent a year in Wilmington as the Technical Assistant to the Sales Manager and early this year, I was assigned to our Mid-Continent Region with headquarters in Tulsa, Oklahoma. We sell various chemicals to the oil industry, our principal product being tetraethyl lead which is used in gasoline.

"Since moving to Oklahoma, I haven't as yet run across any of the class of '43. However, both Wilmington and Chicago had quite a contingent of M.I.T. men and very active Alumni Associations. Some of the details of my work are shown in the biography of the attached advertisement which DuPont so kindly ran in a number of oil trade journals recently. During our move to Tulsa, I ran across some of the old 'Voodoos' that we both worked on. The jokes are just as lousy now as they were then."

This letter was written on the R.M.S. "Queen Elizabeth," in July: "The weather is perfect, and we are having a wonderful trip. We are due to land in Cherbourg on July 4th. My wife and three children and I shall spend the rest of the summer touring Europe. I am on sabbatical leave from my teaching position at the University of Washington, and will spend the next aca-

demic year at the University of Groningen, in the Netherlands, working with Professor Arens on the synthesis of structural analogs of vitamin A that we hope may have anti-vitamin activity.

"The summer following will also be spent touring Europe. We plan to return to Seattle in September, 1956. I wanted to get this note off to you in a hurry, but mailing will have to be delayed for a few days. Your address is in a trunk that is in the hold. My Dutch address for the next year will be: Organisch Chemisch Laboratorium, Bloemsingel 10, Groningen, Netherlands." The writer is Walter C. McCarthy, whose future tales of Europe should be quite interesting.

Here's a letter from Curt Smith of 6348 Moraine Avenue, Hammond, Indiana:

"You pleaded very effectively for material for the class notes. Since my wife and I enjoy reading your column in the *Review* when it appears we agreed that it was time to contribute to the cause. Barbara and I live in Hammond, about twenty miles from Chicago's 'Loop.' We have an old brick house with plenty of room for our two daughters. Carol is six years old and will start second grade next month. She is an avid reader, has begun piano lessons and is taking swimming lessons. Margaret will be one year old in November. She has almost as many teeth as Carol has left. My wife Barbara, when she isn't taking care of her family, enjoys putting a 'green thumb' to use. She has a number of new plants growing including an avocado tree, two azalea plants and some cotton plants — probably the northern-most cotton plants in the U. S.

"I am working for the Standard Oil Company (Indiana) in its General Office in Chicago. I work in the Manufacturing Department on the staff which coordinates operations of our six refineries. We see Charlie Crocker and his charming wife, Phyllis, from time to time. They have just moved into a good looking ranch house in LaGrange. Jack Shutack and John Stetson are also nearby, and I have been able to see them occasionally.

"Barrett Russell is working for the Petroleum Chemicals Department of DuPont. At present he is working in their Tulsa office. He gets home occasionally. Here's hoping your pleas for class news have paid handsome dividends. We all welcome information about our friends in '43."

Here's a letter I received in August from John Hess, 82 Kilburn Road, Garden City, New York. John writes:

"In response to your request for information, I would like to submit the following. Our fourth child, Arthur David arrived last March 29th. He joins two brothers, John, nine, and Edmund, seven, and a sister Elizabeth, three. Other than that everything is about the same; have been with Sperry Gyroscope since June of '43."

Your secretary had the pleasure of attending the first Alumni Officers Conference at M.I.T. on September 9 and 10. This affair is covered elsewhere in this magazine, but I want to report that it was a good start toward better exchanges of information between Alumni and the Institute. Present from our class were: Earl Bimson from Phoenix, Greg Gagarin, Ste-

phen Hazzard, Jim Hoey, Frantz Kreider, Barry Russell, and Howard Scott. I was proud that our class was so well represented. While there I needed Frantz Kreider to produce some news for the notes, and here they are:

"Joined Westinghouse as a Graduate Student upon graduation in June, 1943. Spent one year with them before being drafted into Navy — emerged in 1946 as Electronic Technician's Mate 3/c. Had spent one year in Navy schools by which time war was over and took second year to get discharged. Returned to Westinghouse at Newark, N. J. (Meter Division — products: watt-hour meters, electrical instruments and power system protective relays.) Since 1952 have been Cost Reduction Supervisor, doing coordinating work on Cost Reduction Program. In 1952 secured a degree of Master of Business Administration from New York University after four years of night school. Still unmarried and live in Newark. Member of M.I.T. Club at Northern New Jersey and a newly appointed Educational Councilor." Frantz further wrote that Raymond Frankel returned to M.I.T. and secured a Master's Degree in Chemical Engineering in 1947. Then he worked with J. H. Whitney Co. as investment investigator; later did the same for Nathan Levin; after that he was business manager for *Reporter Magazine*; and now he does investment investigation for Electric Bond and Share's President. All the above in N. Y. where he lives. Frantz said that William Katz is Engineering Manager — (not sure of title) for Sylvania Electric on Long Island. Further notes from the Kreidel newsletter are:

"John P. Greening VI-A spent from 1943 until approximately 1952 at Western Electric in Kearney, N. J. and secured a Master's degree from Stevens. He is now in Bartlesville, Oklahoma, working for Phillips Oil; is married and has two children.

"David J. Crawford VI-A secured Master's from M.I.T., and is now employed as project engineer by I.B.M. in Poughkeepsie. Married, one child."

There you have it, fellows, for this issue of the Notes. I am deeply appreciative of the many, many letters which I received, all of which I have published in full. Now that the postcard reminder system has had results, I'll probably follow it up for quite a while. Just one more item to report, and that is the income survey which Jim Hoey conducted during the past few months. The complete report has probably arrived by now; but if you haven't got yours, write to Jim at 1826 Centre Street, West Roxbury 32, Mass. for your copy. Our class responded well to the questionnaire, as the survey shows, which we feel is indicative of the excellent class spirit for which we are becoming famous. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

• 1944 •

This month notes the passing of a few more stalwarts into the ranks of the uneligible male.

Bob Meny writes "Since writing from England last summer I have been in Yokohama, Japan, on a plant start-up assignment and have also returned to Eng-

land long enough to marry a Scottish girl — Kery Mary Fisher from Dumfries, Scotland, and late of Southampton, England. Kery joined me in the States in February and we are currently living in Cranford, New Jersey. At the moment I'm working in the Design Division of the Esso Research and Engineering Company, formerly the Standard Oil Development Company of Linden, New Jersey. Would certainly like to see any old classmates who happen to pass thru these parts."

Gordon McDowell was married in Baltimore in February. The bride, Irene M. Thieneman, was formerly of Munich, Germany, and educated in both German and Swiss schools before coming to the Washington Office of the American Express Company. Gordon is in the U.S. Navy Hydrographic Office and plans to be living in Washington, D. C.

At the reunion Jim Mulholland confided that he also had taken the step but he was travelling all directions at once and I didn't succeed in obtaining any details. Miguel Negrin and his newly acquired wife attended the reunion. They are presently living in Sands Point, Long Island.

Also at the reunion were Jim FitzGerald, Joe Donahue, Tom Dolan, John Upton, W. S. Little, Pete Quattrochi, Scott Carpenter, Ern Schoenwald, Bruce Kingsbury and Ed Peterson.

Earlier this year I missed a number of issues due to my pinch-hitter not carrying on while I was on a plant start-up in Sao Paulo, Brazil. I met a number of very hospitable Alumni at the M.I.T. Club of Sao Paulo. Included in this group was Hans J. Mayer, '44, who had just been appointed to the staff of the University where he will teach in the Aeronautical Engineering Department.

While wandering around the "Do-It-Yourself" Show in Boston I met Al Hart looking over a do-it-yourself appendicitis kit. Al is the estimator for a local construction company and all these home repairs that we amuse ourselves with are child's play for him so he plans to enter the completely unexplored medical do-it-yourself field. I unexpectedly met Bud West in Worcester a short time ago while visiting the Norton Company. Bud works across the street at American Steel and Wire Division of U.S. Steel as an Industrial Engineer. Larry Biedenharn has moved to a new post in Houston, Texas, where he will be teaching at Rice University.

How about a little information on the whereabouts and doings of you who have not reported in for a number of years? I need the information to keep the column going and your friends are interested in you. Don't be bashful — write. — BURTON A. BROMFIELD, *Secretary*, 72 Woodchester Drive, Weston, Massachusetts.

• 1947 •

At this writing, the First Alumni Officer's Conference has just ended; and it certainly was an inspiring event in the calendar of Alumni affairs. Undoubtedly the Conference will be given full coverage in this month's Institute Gazette section of the *Review*, so I shan't be repetitive and go into details. Rather, from the standpoint of this column, it would be better to be a little parochial.

A number of us from '47 attended. Art Schwartz who is on the Educational Council was up from New Jersey for the two-day affair. Art was his usual ebullient self, still a bachelor, and still selling the wonders of pressure-sensitive labeling, as manufactured by his company, Kleen-Stik Products, Inc. Another long-missed classmate was Dick Mooney. Dick, also a bachelor and also on the Educational Council, has for the last two years been with Continental Oil Company in New York, where he is a technical service representative in the Petrochemical Department. Arnold Judson, one of our representatives on the Alumni Council, also attended. He is Assistant Personnel Manager for Polaroid, and has recently moved his wife and two girls into a Tech-built house in Lexington. Many of you may remember Don Ramsay, '50, now with Rochester Products, who was in Section I our freshman year, before the Navy got him and delayed his graduation by three years.

Alumni Day last June found more than the usual number of '47 men in attendance. Harl Aldrich, Bob Aquadro, Phil Jones, Mort Loewenthal and Marty Phillips were at the banquet, and I saw Ed Kane at cocktails beforehand, although he couldn't remain for the dinner. Jim Fitzgerald, Gerry Reethof, Walt Rotman and Alex Ward also attended the day's festivities, although I missed seeing them. Last June also brought the A.S.M.E. meetings to Boston, and I had the pleasure of Vice-chairmaning one of the Rocket Society sessions. Fred Ehrich, one of the brighter of us, delivered a paper on gas turbines; and we were able to have lunch together one afternoon. Fred is with Westinghouse, and has just recently been married to Joan Golda Collier of Hartford, Conn. Two days after their wedding the Ehrichs left for Derby, England, where Fred has a year's assignment as Westinghouse's technical liaison officer with Rolls Royce. Soft deal.

Technical society meetings are a great place to meet classmates. The Institute of the Aeronautical Sciences held its Second Annual Conference on Turbine-Powered Transportation in Seattle the second week of August, and it was my good fortune that business required my being up there at the same time as the meetings. As I was registering on the first day, Bill Bursnall tapped me on the shoulder, and we spent two very pleasant days at the meetings. After five years or so with the N.A.C.A. at Langley Field, Va., Bill is now in the Operations Research Group at Convair, Fort Worth. He has three children, and he and the family seem to have become acclimatized to the rigors of Texas summers. My last evening in Seattle I telephoned the Hildebrands — Bob, '45, and Ginny — and they came galloping into town. Seems they had a full-time baby-sitter for Bruce and David for the summer, so it was easy for them to hop into town. Bob is making strides at Boeing, and Ginny (Ferguson), who will be remembered as the prettiest co-ed Tech has seen in many years, is still as gracious, charming and lovely as ever. We reminisced for a while, and then went for a night drive through Seattle, touring the campus of the University of Washington,

where Ginny did chemical research in the Medical Department before settling down to domesticity. On the way up to Seattle I stopped off a day in San Francisco, and contacted Bob and Jen Warner, who most hospitably drove in from Palo Alto to give me an auto tour of the principal sights. We took photographs in Sausalito, across the Bay, and on Twin Peaks, overlooking the City, and had a fine time. Bob is working at the Ames Laboratory of the N.A.C.A.; and the Warners must, by this time, proudly be diapering their first offspring.

Dropped down to New York not too long ago for a day, and telephoned Marty Starr. Marty was married last April to Polly Exner of Minneapolis, Minn., and the couple has set up housekeeping in Greenwich Village. A very unusual birth announcement arrived from Ginny (Carter) and Rey Grammer this summer telling of the arrival of their fourth child and second son, Charles Forest, on May 19. A note on the back says that Rey is still with Kodak, and the Grammers have been in their new house a year and a half now. A letter from Carroll Andrews' wife, Hazel, reads: "Was much surprised to read all about us in your notes for May. I couldn't believe that you hadn't heard about the arrival of Paul, who is now practically grown. He arrived two days after you were in Newport to see us - January 11. Andy is happy in his new job at I.B.M., although Poughkeepsie was rather a disappointment to me as a town; but the country is beautiful, much like Maine. Debbie is learning to be more independent, and rides her tricycle like mad with the rest of the gang. Hope this finds you in Boston enjoying your old haunts."

Turning to the news clippings and releases for word of new positions, and so forth, I find that some of them go rather far back, as I have been a little remiss in fulfilling my duties recently. To keep the record straight, however, I shall report them all; and will gladly welcome corrections by personal note. Jim Duke has for some time now been product planning manager for Elastic Stop Nut Corporation of America, of Union, N. J., and is in charge of planning new products for the company's four divisions. Bill Seuren, formerly with Deep Rock Oil Company, has joined Frontier Refining Company, of Denver, Colo., as sales and administrative coordinator. Dr. Vince Savukinas is in the Air Force Medical Corps. As a first lieutenant, Vince has been assigned to the U.S.A.F. hospital at Reese Air Force Base in Texas. Another transplant to Texas is Eli Perry who has been made assistant director for polyethylene and engineering research at Monsanto in Texas City. Bill Parsons, working with Eastman Kodak in Rochester, presented a lecture on solid state physics at the University of Maine last spring. Mitch Keamy is now chief engineer for the American Monomer Company, a division of the Borden Chemical Corporation. Mitch, wife Edith, and son, Mitch III, live in the Bronx. Tony Quesada was honored by the Government of Costa Rica in being named its official representative to the International Conference on the Peaceful Uses of Atomic Energy held in Geneva last August. Tony is a physicist with Baird Associates, Inc.,

of Cambridge, is married to the former Faith Carter, a well-known concert violinist and teacher, and lives in Arlington. John Blackwell, who is Chairman of the Boston Chapter of the New England Section of the American Institute of Planners, was named by the City of New Bedford to make a survey of its urban area for possible industrial sites.

Ben Ranan was appointed General Manager of the Great Lakes Stamping and Manufacturing Company of Toledo, Ohio. Ben was formerly Chief Industrial Engineer with the Sonotone Corporation of Elmsford, N. Y., and last spring was appointed to membership on the National Panel of Arbitrators of the American Arbitration Association. He has two children. Bob Musser has been appointed Assistant Division Manager of Purchases. The new Secretary of the Mississippi River Commission and Assistant Division Engineer, Lower Mississippi Valley Division, Corps of Engineers, is Col. Milton Barschdorf. Col. Barschdorf took his new post upon graduation from the Army War College, and now makes his home in Vicksburg, Miss. A release from Ohio State University informs us that George Schwartz was awarded the Master of Science, and Hank Rowe, the Doctor of Medicine degree from that Institution last June.

The bureau of vital statistics reports that Jim Moir was married to Jane Heaton of Poughkeepsie, N. Y.; and Dick O'Donnell to Gina W. Campbell of New York, N. Y. The wedding of Al Werner and Jane Elizabeth Black of Saco, Me., took place in June; and Dr. Herbert Locksley married Kathleen Grace Watson of London, England, in that city also last June. Herb is a Harvard travelling fellow in England, pursuing his medical studies, and has lectured in London, Manchester, Oxford, Oslo, Copenhagen and Stockholm. Finally, an announcement just received today tells of the wedding of Dr. Bob Drye to Vivian Ethel Nevue of Chicago on September 10th. The Dryes will make their home at 7244 South Merrill Avenue, Chicago. One unhappy item to pass on to you is the untimely death of William Danforth Compton last April. A well-recognized architect, Bill founded the firm of Compton and Pierce of Cambridge, which developed Peacock Farms in Lexington. He left a wife and two children.

Finally for class affairs, you probably are all aware that Jim Phillips is our new Class Agent. I am sure you will all respond generously to his appeals for the Alumni Fund. The Institute needs our help as much as ever - there will be no mysterious Mr. X to match our contributions this year - so let's better our record of giving. Class President Norm Holland, by the way, has been appointed Instructor in Department of Humanities at the Institute. He is completing his thesis for the Doctorate in English Literature at Harvard. Norm and wife Jane are residing in Cambridge. One last thing. Our tenth reunion is just a year from this coming June, and we on the Class Executive Committee have begun to think about plans already. I hope you will all start thinking about it also - actively - so that we can better that miserable turnout of eleven (!) for the fifth. You'll be getting

publicity on it, when we have something definite to go on; and I may have to dun you all for some nominal dues to cover mailing, printing and other expenses. In the meantime, write, and let's have some opinions on the reunion - or on anything at all, for that matter. But write - that's what keeps this column going. - CLAUDE W. BRENNER, *General Secretary*, 1470 Beacon Street, Brookline 46, Mass.

• 1948 •

The passing of Summer has brought to your secretaries several letters and news items of interest. Rather than editorialize, we shall let the authors (and writers of news articles) speak for themselves . . . and to them our thanks.

Frank Heilenday writes: "I am now an Operations Analyst for the Strategic Air Command at the 8th AF HQ at Westover AFB, Massachusetts. Retaining a civilian status, the job entails scientific advice and analysis for the Commander of the 8th Air Force. . . . Since leaving Tech I've stayed in the aeronautical engineering field from Convair, Ft. Worth and Cornell Aeronautical Laboratories, Buffalo, to Convair, San Diego. I have strayed from my aero option in structures and aero elasticity to the extent that most of the last five years I have spent in servomechanisms for augmentation of aircraft stability and control. . . . I was married to Miss Joan Brandmeyer from Newark, N. J., my home town, way back in June 1951. After living in Buffalo and LaJolla the very happy life of the Heilendays is centered in Springfield. Hope to be able to see most of the class at the next reunion."

A most interesting letter from Michael Kami is quoted in part below: "For the past few months I have been Manager of the Advance Planning Department in the Product Planning Division of I.B.M. This is quite a fascinating job, where our group endeavors to plan better systems and company management in various industries with an eye toward future requirements for electronic data processing machines some ten years hence. The department analyzes business operations and attempts to specify requirements for electronic machines that will make these systems feasible. . . . As we are rapidly expanding we actually need several men to join our team that have the following qualifications: Broad business experience in various industries combined with a creative ability, long range vision and an engineering background. I thought that some of the mature Course XV men may fill the bill. . . . As far as my personal life is concerned, my wife Kay and I still live in Teaneck, New Jersey, and we expect very soon the arrival of a potential M.I.T. Class of '77 graduate."

And in late Spring a letter was received from our Class President, Dave Cist, which we don't believe has been passed along in these Notes: "I was transferred down here (Aiken, South Carolina) in late '53, here being the Savannah River Plant which, as you doubtless know, is being run by duPont for the AEC. My work is involved with instrumentation and automatic control and is very interesting. We have a group of about a dozen engineers whose efforts are devoted to

improving the quality of the instrumentation at the plant. This involves some design and development, some troubleshooting and some effort devoted to things no more important than simply pointing out that the equipment in question works better if it is first turned on. For further details about this project, I refer you to the newspapers which usually publish more than we can say. . . . Aiken is a delightful town, if you like this part of the country, and I find I'm coming to. It used to be horsey and polo and all that and there's a bit of it left, but mostly it's just a fine winter climate and a large number of good and interesting people. Some of these came with the plant, many were here long before. Not much tennis about here, but there's golf and there's horseback riding. As if this weren't enough, six of us are joint owners of a small and very inexpensive airplane which we are learning to fly. It sure is fun and, with a bird this small, isn't very expensive. Another outlet was a trip (last winter) to Aspen, Colorado for skiing. Still get a huge bang out of it and only wish Aiken were nearer to snow covered peaks."

From the Alumni Association we have received a list of those who attended Alumni Day in June. It is hoped that as time goes by more and more of us can take advantage of this opportunity to renew old friendships and to create new ones. In attendance were: Bill Ayer, Martin Billet, Ken Brock, Tom Cahill, Albert Carr, John Clifford, Albert Davidson, Bob (and Mrs.) Dean, Bernard Gordon, Dick Harris, Edwin Hiam, Bill Joyce, Daniel Levin, Bill McEwen, Walt Mindermann, John Mitchell, Bob Peterson, Samuel Russell, Nathan Schindler, Chester Vappi, Art Waxman, George Clifford and Matt Doyle.

From the society columns we learned of the wedding of Charles Steffens, who is currently with Pratt and Whitney Aircraft in East Hartford, Connecticut, to Miss Julianne Cunningham, an instructor at the University of Connecticut School of Physical Therapy; and of the marriage of Francis Crowley, a consulting engineer with Crowley-Hession Engineers, Boston, to Miss Geraldine Ann Milbier who has been a teacher at the Memorial School in West Springfield.

In a recent organizational change in the Trumbull Components Department of the General Electric Company in Plainville, Connecticut, Tom Waldron was appointed a procedures specialist. Tom joined G.E.'s business procedures group at the appliance and merchandise department in Bridgeport in 1948. In 1950, he went to Erie where he spent approximately 1½ years working on production control surveys. He moved to Louisville in 1951 when the major appliance division was transferred there, and worked in the business procedures section, working largely with the installation of a Univac system. He remained at Louisville until his recent appointment at Plainville.

Dr. Nelson Alpert, who at 22 (in '48) was the youngest man ever to receive a Ph.D. from M.I.T., is now a physicist with the White Development Corporation of Stamford, Conn., a small firm of six persons which develops and builds complex

scientific measuring equipment for the armed services.

Dr. Chester Bragaw, who received his M.S. in Mechanical Engineering in '48, is now a research engineer in the Research Division of the duPont Company's Polychemicals Department at the Experimental Station, Wilmington, Del. He has been engaged in experimental studies aimed at improving the properties of plastics for such uses as piping and film.

Dr. Christos Stergis who makes his home in Watertown, Mass., and who is in the Atmospheric Electricity Section of the Geophysics Research Directorate of the Air Force Cambridge Research Center, directed balloon launching tests in Florida this Summer in a study of the electrical charges set up by thunderstorms. "Instruments taken aloft by the balloons gathered information on the electrical field and currents produced by the thundercloud, and also on the change of electrical field and currents caused by lightning discharges to the ground or other charged centers."

Stewart Thayer, who is employed as Assistant Port Engineer for Lykes Brothers Steamship Co. of New Orleans, in August completed a course in maritime techniques as used at the Military Sea Transportation Service in the Gulf Sub-area with headquarters at New Orleans. Stewart is married to the former Miss Marilyn Rossbach of that city.

Russell Law has recently become a general agent of the Northwestern Mutual Life Insurance Company at Wichita, Kansas, after spending several years as a special agent in his father's Baltimore, Md. agency. Married and the father of two small daughters, Russell has been active with the Baltimore Junior Chamber of Commerce and other civic organizations.

Dr. William J. Harris, of the Batelle Institute, Columbus, Ohio, was named Assistant to the Director in August and is now headquartered in Batelle's office in Washington, D. C. In his new assignment, Dr. Harris represents Battelle in its relationship with the numerous governmental organizations that sponsor research in the Battelle laboratories.

If you have been reading (and possibly enjoying) these Class Notes for the past seven years and haven't made a recent contribution yourself, how about overcoming that inertia and dropping a line to either of your class secretaries. You may be sure that it will be appreciated by all of us. — WILLIAM R. ZIMMERMAN, *General Secretary*, 4510 Leshner Drive, Dayton 9, Ohio. RICHARD H. HARRIS, *Assistant Secretary*, 26 South Street, Grafton, Massachusetts.

• 1951 •

Hello Again! Your secretary hopes that all of you have had relaxing summers and now will have a bit of time to keep up with the world. This issue starts the fifth year work on the class activities. In June we will all have an excellent chance to exchange pleasantries and news at our first Fifth Year Reunion. All of you have been contacted a number of times so you know that '51 is planning a precedent shattering get-together come next June. Since this column works a few months ahead (this

column is being written in September) our class mailings will be our way of getting up-to-date news on what is happening in the re-union sphere. At this point I can say that the general response has been good and we hope to have a program that will encourage all of you who can join in the festivities.

A word on the class dues. As you will recall, our class has been operating on a minus balance for the last few years. Today it is a pleasure to announce that the response on class dues has been heart warming. We are in the black — thanks to you loyal '51ers. Thank you also men and women of '51 for dropping, where time permitted, a little note on your activities. That has been manna for our class notes column. Please keep it up!

Your secretary has recently attended the first Alumni Officers Conference held at Tech September 9 and 10. The Alumni Association and the M.I.T. Administration did an excellent job of organizing and executing a program designed to inform the Alumni how the educational, research, building, and alumni activities were progressing. It proved to be a very mentally stimulating program and further reinforced the concept we have had that Tech will show the way. It was a pleasure to hear that the Alumni drive was very successful — news on that area is in this issue. By the way, the first concrete was poured for the Karl Taylor Compton Laboratories, Bldg. 22 is now non-existent — the laboratories will be located there. Enough of this gossip — let's switch over to the '51 activity area.

In the marital area we find a few more men saying farewell to single blessedness: Rudy Billing and Grace Lander were married at Milford, Conn. in May. Bruce Hood cut short his bachelor career and said "I do" with Carolyn Jones at Marblehead in June. Llewelyn Williams and Mary Nastri were married at Woodmont, Conn. in June also. And Don Schlatter and his bride, Barbara Reichert, were joined in marriage at Toledo in June. Best wishes to you all! And now in the New Arrival Department we have the following Stork Statistics: Fred Aldrich and his wife welcomed Brian Stewart Aldrich in April. Al and Betty Heckbert greeted Susan Russel in May — Susan's statistics: 6 lbs 13.5 ozs. And Hank Spaulding, our reunion chairman, and his wife, Ann, became the proud parents of Robbie in July.

The Other News Dept.: Among the '51ers at the 1955 Alumni Day were Fiore DiGiovine, Phil Gray, Hank Hahn, Dick Howe, Howie Livingston, Marty Murphy, Charlie Orne, Edith Roberts, and George Siefert. After leaving the Air Force, Glenn Battaglia joined The Gardner Board and Carton Company as a chemical engineer in Middletown, Ohio. Dr. John Clegg joined the technical staff of the research and development department of Hooker Electrochemical Company at Niagara Falls. John will be working in the miscellaneous organics chemical group. He had spent some time at the University of Michigan where he obtained his master's degree in chemistry in 1953 and the doctor's degree in organic chemistry in 1955.

Elliott Cutting is now a sergeant with the 69th Infantry. Bill Pinkham recently completed a five month training program

at the Trane Co. at LaCrosse, Wisconsin and will now be working out from the Trane sales office at Washington, D. C. Fred Plemenos, working as an assistant engineer in the Missile and Radar Division at Raytheon, received a bachelor of business administration in engineering and management degree from Northeastern University. Bill Plouffe received his M.B.A. from the Harvard Business School and joined the Arthur D. Little, Inc. business research section. Bob Snedeker is now with the DuPont Photo Products Research Laboratory at Parlin, N. J. after having completed work for a doctor of philosophy degree at Princeton University. Dex Whittinghill writes to say that he is now Staff Manager-Methods Engineering, Gen'l Office, Campbell Soup Co. at Camden, N. J. Besides his new home, his 16 months old son, doing Jaycee work, M.I.T. Educational Council Work, his regular work, Dex still finds time to go out for various sports.

Another note came from Manny Becker. He writes: "Like a large number of our group, I also spent some 27 months in the Air Force at Wright Patterson AF Base at Dayton. I was assigned to the Bearing Section of the Aircraft Laboratory. Besides supervising 12 research projects I also did engineering evaluations on bearing installations in aircraft and aircraft accessories. I also had to do a lot of traveling all over the country." Manny joined the Fafnir Bearing Company after his discharge and is now a service engineer in the Aircraft Sales Division. His job is combination trouble shooter, sales engineer, special projects coordinator, and assisting the Manager of the Aircraft Division. Manny ran into Lou Tedeschi in Hartford where both belong to the M.I.T. Club. Lou Tedeschi is with Kaman Aircraft in Bloomfield, Conn. John Washburn is also working in the area. Manny gets together with Ben Schranze and his family — Ben works at Pratt and Whitney at East Hartford. Roger Weatherbee is with Hamilton Standard in Windsor Locks and Lee Rohde is with G.E. in Bloomfield, N. J. Manny reports also that John Pasicka and Herb Ullman are busy at American Machine and Foundry (Electronics Division) at Boston. Lou Galan is back at Wright Field after the Air Force sent him to the University of Michigan to do graduate work — Lou now has his masters in mechanical and aeronautical engineering. Joe LaQuanti is also at Wright Field in the Power Plant Laboratory. Thanks very much, Manny.

From way out west in Kansas, Fred Lehman, helping produce Zest for Procter and Gamble, writes in to say that he finds life out there quite fascinating. Fred now has his pilot's license so your secretary hereby invites him to fly over for the reunion next year — how about it, Fred and Betty? Fred tells us that Paul Gibson and Bill Farmer are also helping the P and G people turn out good soap. We hope the new home isn't keeping you too busy, Fred. Lieutenant Commander Tom Budd reports that he is still regular navy and is a project officer at the Bureau of Aeronautics. He states that Havenstein, Ainsworth, Cutler, and Yates are also at BuAer. Howie Schwartzman reports that he is in Cincinnati and with the Overseas Engi-

neering Division of Procter and Gamble Company. He will be an instrument engineer doing service work for P and G's foreign factories. Howie reports that he got together with Jerry Hartstein and also met Mike Hoffman, now an Asst. Prof. of Aeronautical Engineering at Tech, at Tanglewood. Thanks for all the notes — I'll finish the remainder of items next month. More news is always welcome. — STAN MARCEWICZ, *Secretary, c/o The Lorraine, Route 2, Highland, N. Y.*

• 1952 •

Welcome back to the old '52 corner, all you old graduates. Only two more years until our first big reunion. Makes you wonder which of us will show up with grey streaks in our hair and which with even less. I suppose, though, it's a little early for any of us becoming grandpas or even grandmas. From the deathly still surrounding the activities of the '52-ers (lack of news, that is) everybody must be working hard.

Not even the gay summer season was able to stir many of the '52 bachelors into holy matrimony. Let's see now, on June 12 Marty Levin, the San Francisco emissary to the Course XIV department, was married to Barbara Todreas, of Beverly, Massachusetts. Barbara, as Marty's frequent trips past Powderhouse Square probably show, graduated from Jackson College on the day of her wedding. Marty who went on to Stanford University for his master's degree after he left the Institute, is now in the employ of the United States Air Force as a Lieutenant at Wright-Patterson Air Force Base.

Another Lieutenant at the same location must have thought the game was "follow the leader." Mike Lubin's the one; Mike was in Course VIII. The lucky girl was Mary Kellogg; the date September 11; the place Glastonbury, Connecticut.

June 13th saw the marriage of Bob Rothen, a Mechanical Engineer, to Judith Angell, a Mendham, New Jersey girl and a Bates graduate. Since Bob has already served his time with the Air Force, he and his new wife are now settling in the rolling hills of New Jersey, Morristown to be exact, where Bob is employed as a sales engineer by the Russell E. Stoll Company of New York City.

And for those of you who have often wondered what ever became of Ralph Slater, the Aero whiz who seemed to have vanished into thin air after our Sophomore year, here's the word: He has become Ensign Slater of the Coast Guard after graduating from the Coast Guard Academy in New London, Connecticut, on May 27th; and to keep his name in the newspapers he married Fay Brown only one day later in nearby Old Lyme. Ralph is at the present time serving his initial duty assignment on the Cutter *Yakutat* out of New Bedford, Massachusetts.

Just a few weeks earlier Harold Price, Course VI, also added Ensign in front of his name, this being the real Navy though. Harold, who was doing Communication Engineering out at the Sandia project in New Mexico, was one of 700 who graduated from the Navy O.C.S. at Newport on May 7th. What troubles me most is that on the blank Harold had to fill out he lists "The College Pub" as his

college newspaper; I hope that the "Pub" stands for "Publication."

It looks as if Arnie G. Kramer (not to be confused with Arnie A., the Graves Registration Officer from Worcester, Mass.) has finally achieved his ambition of becoming a Californian. Too bad he had to take a job to do it. Arnie, a Course VIII BS-er and MS-er, is now with Hughes Research and Development in Culver City, after having worked for Microwave Associates, Inc. in Boston.

What Boston got in the trade for Arnie was Stan Sydney, our erstwhile Class Agent. Yup, Stan has left Hollywood for a position as a construction engineer for a contracting firm headed up by none other than another '52-er, Herb Eisenberg. Remember, in Boston it's Eisenberg for a house designed by Sydney. And while I'm on the Sydney subject, Stan writes: "Manny Liberman wrote me from Colombia, where he is managing a plastics factory. He said that Gustavo Gomez, a fellow Course X man, is working as a chemist in a paper factory in Cali, Colombia. Over 250 classmates receive the *Review*."

Sam Mitchell, the Sun Valley and atoms man, writes: "According to the last *Review* you're still single. This is beginning to become an exception. I am likewise."

And from Wally Ballou come the following disjointed reports: Nick Melissas is now Dean Brookes' assistant at the air-conditioned School of Industrial Management. Andy Wessel is back in Norway after graduating from the Harvard Business School in June. Andy promised to be back for the 25th reunion. Hal Lawrence, one of the Industrial Liaison Office troupe, is now our class' Alumni Council Representative, succeeding Andy. Jim Stockard is still with the Instrumentation Lab and working for his *n*-th degree. Dana Ferguson has recently joined the technical sales staff of Revere Copper and Brass. Dana's now going through the grinds of a company training program in Baltimore, but plans to move his base of operations to New York City on about October 1st. Gus Rath and his little spouse were sightseeing around Boston a few weekends ago; hurricane Diane's little Connecticut valley floods washed out my plans to pick up the latest Ohio gossip straight from the horse's mouth at that time. Burge and Lib Jamieson's little offspring, Ellen, is now two years old. The Jamiesons are still braving the icy winds of northern Maine at Loring Air Force Base. Bob Walsh developing that hound dog, "soon to be married" look. Just a few more months to go. Reports have it that Phil Schirm is wowing them in Cincinnati with that Savannah, Georgia ("Like honey dripping from the magnolia blossoms") drawl. Jack Coppenhefer is heard to be spending summer as a taster for Brown and Forman in Louisville, Kentucky, and Lou Karvelas is with DuPont in Wilmington, Delaware during his summer vacation.

It is my most unpleasant duty to pass on to you all the news of the untimely death of Ralph Cooper, Course XII-C. Ralph lost his life at sea when on the yawl *Suomi* which was hit by a freighter off the California coast near Santa Barbara early in the morning of April 20th.

Words seem so inadequate to express the feelings that such an occurrence creates. — STANLEY I. BUCHIN, *Secretary*, Chase D-41, Harvard Business School, Boston 63, Massachusetts.

• 1953 •

It is the start of another season for the *Technology Review* and from the looks of the letters and news clippings it is going to be a pretty good year. During the summer I saw Ralph Anglin and his wife, Glo. Had dinner with them at their very pretty home in Yardley, Pa. Doug Meyer was on the ship that carried some 3000 of us from Inchon to Seattle; during separation processing at Fort Dix, Fran Turcotte flew in from France to return to civilian life. I returned to the states too late to make Alumni Day on June 13 so I missed seeing Al Danzeberger, Chuck Homsy, and Gordon Kerby who represented our class. However, over the weekend of September 9, I came to the first Alumni Officer's Conference at Tech and was surprised and proud of the progress which our school has made.

Before I mention the numerous marriages that have taken place during the past four or five months, I would like to make one correction to the notes of April '55. In that issue I noted the marriage of John and Dorothy Dunlay; however, I gave John's name as William J. rather than John B. Dorothy was kind enough to call the error to my attention and I hope that if similar errors occur in the future you will tell me of them.

Lt. Don MacKillop and Dolores Openheim were married on March 18 and went to Bermuda for their honeymoon. Dolores is from Summit, N.J. and has taken her undergraduate work at Smith College. Don and Dolores planned to make their home in Washington, D.C. The only wedding reported for the month of April was that of Norman F. Gardner and Joan B. Arenovski. Joan graduated from Lesley College cum laude in 1954, and prior to her marriage also attended Tufts College, Graduate School. After a wedding trip to the Hawaiian Islands, Norman and Joan returned to their home in New Jersey where Norman is a research metallurgist for the Air Reduction Company in Murray Hill, N.J.

In May two weddings were reported: Miss Marjorie Hamill and Francis Glazier said their vows in Trenton, Michigan; and Miss Maria R. Navarette became Mrs. Stanley J. Szczuka. The Glaziers, after touring the Mid-West, settled in Wichita, Kansas where Mr. Glazier is employed by the Boeing Airplane Co. The Szczuka's will evidently live in the New York City area since Mr. Szczuka has a position as an electrical engineer in Great Neck, N.Y.

June weddings reduced the bachelor ranks in our class by at least four with Miss Barbara B. Cole becoming Mrs. Norman C. Ford, Jr.; Miss Elaine T. Magnier, Mrs. Robert P. McDonald; Miss Estelle M. Karukas, Mrs. David N. Keast; and Miss Ellen Kam, Mrs. Gilbert R. Chuck. Barbara and Norman Ford were married in the Wellesley College Chapel on June 18. Barbara is a graduate of Wellesley and Norman is serving in the Army. As I recall Elaine and Bob McDonald were dating each other during

our undergraduate days at Tech. Elaine is a graduate of Emmanuel College. Upon completion of his Air Force service, Bob plans to return to Harvard Business School. Estelle and David Keast spent their honeymoon in Bermuda and then returned to Cambridge where David is associated with Bolt, Beranek, and Newman, consultants in acoustical engineering. Estelle is a graduate of the University of Connecticut. Eileen and Gilbert Chuck added a little Hawaiian charm to their wedding at the Old South Congregational Church. Eileen lived in Hawaii prior to enrolling in Wheelock College from which she graduated last June. Gilbert after spending sometime on the Research staff at Tech was awarded his master's degree. Len Ehrman — now living in New York City — was Gil's best man.

Daniel Babcock writes that he is presently located at Kirtland Air Force Base, New Mexico working as project officer on a special weapons program. Dan spent his first year in the Air Force at M.I.T. and expects to spend three more years at Kirtland. On July 2 he married Anne Obenour, a graduate of Ohio State. Anne is working as a medical technologist at County Indian Hospital, Albuquerque.

Dick Neller sent along a fine letter from Truax Field, Madison, Wis. Immediately after graduating from Tech, he made a summer tour of Europe with other M.I.T. and Harvard Business school men. Upon returning to this country, he went to work for Procter and Gamble in Quincy, Mass. and just before being called to active duty in the Air Force he was placed in charge of the manufacture of Duz and Ivory Snow in the New England plants of P and G. The Air Force routine took him to Texas, Los Angeles, Japan, and finally to his present assignment in Wisconsin. Dick has some news about a few other "combined plan" men who started at Ripon College in 1948. John Koch and Chuck Fredrickson are both married, both in the Army, and — lucky fellows — both have their wives with them in Germany. Chad Gibbons is with the Army Engineers in Montana.

Wayne Crum entered the Army in August of '53 after working as a chemical engineer for Allied Chemical and Dye Corp. in Morristown, N.J. Wayne spent most of his service time in Germany with the 5th Infantry Division. Lt. Bill Rownd and his wife, Joan finished their Army tour in France this summer.

I have a news clipping with a picture of a serious looking gentleman in a sharp looking naval officer's uniform — Jake Pinkovitz received his commission as an ensign and is presently assigned to the office of the Supervisor of Shipbuilding and Naval Inspector of Ordnance in New York City.

Thomas H. Goodgame, a member of the Ipswich School Committee has been appointed to the regional district planning committee for future schools in the Ipswich area. Dr. Goodgame is employed in the research division of Godfrey L. Cabot, Inc., Cambridge.

For those of you in the New York, Philadelphia, and Chicago areas, Doug Meyer, Ralph Anglin, and Brian Parker will collect and solicit material from you for future class notes columns. Doug lives

at 6823 Dartmouth St., Forest Hills, N.Y. and is employed by the Turner Construction Co. as a building engineer. Ralph lives in Yardley, Pa. and has a position with the Robbins Construction Co. in Philadelphia. Brian's address is RFD 3 Box 112, Barrington, Ill. Brian has been working as a research assistant in the Quaker Oats Co. and is starting his second year at Northwestern University's Law School. Eventually, it is hoped that a man from our class will be located in each area where a number of our classmates reside. This system should make it easier for personal contact to be established between those who write and those who contribute information to the class notes column. If those of you who are interested in collecting notes from your area would drop me a post card, I will furnish you with a list of classmates. — VINSON W. BRONSON, JR., *Secretary*, 18 Mellen St., Cambridge 38, Mass.

• 1954 •

Back on the job after a year in Germany, I would like to start off by thanking Dave Wones for the really bang-up job he did while handling the Class Notes for me this past year. I really appreciate your help, Dave. Many thanks. Dave, by the way, spent the summer down in Texas with the Sun Oil Company, and is now back at Tech where he will take over as Regional Secretary from Tom Gibbs who has left the Cambridge area. So any of you who are still around M.I.T. and have any class news might give Dave the word at 37 Bay State Road.

I got a letter from Rog Griffin the other day. Rog, Erik Gelotte and Bill Romig are all in the Detroit area with the Army. Rog also tells me that Dick Hayes is really becoming a tiger for the Air Force down in Texas. I have also heard from Art Jacob who has an impressive title with the Air Force in England. George Schwenk claims that he is really roughing it in the Far East, living in a tent while serving Uncle Sam. Still with the boys in the Armed Forces, Russ Chihoski, Morton Davis and Bob Warshawer are all wearing the Air Force blue. Russ is at Chantane Air Force Base, Illinois, Morton is at Otis Air Force Base, Massachusetts, and Lt. Warshawer is out Enid, Oklahoma way. Bill McTigue and Fred Schmitt are both overseas, Bill with the Army Engineers and Fred with the Quartermaster Corps. Dave Springsteen is in Ohio and Fred Zappala is at Fort Meade, Maryland.

On the civilian side of the ledger, I have a few notes which might now be out of date, but I shall pass them on as the latest word I have concerning these people. Sergio Chavez-Jofre is with the Andes Copper Mining Company in Chile. Doc Edlin is drawing his paycheck at the Carter Oil Company in Tulsa. Pete Embree has been moving around the Southwest for the Geophysical Service Inc., and at last report was in Dallas. Rae Fessel is hitting the physics books at Purdue University and Ralph Rollbuhler is with the S. C. Johnson Company in Racine, Wisconsin. Nancy Mondock and Paul Meretsky walked down the aisle together and are now living in Brookline, Mass.

Dean Jacoby was in St. Louis over the Labor Day weekend and stopped by. He

is stationed in Tulsa with the Air Force, and apparently is having a rough time of it with his military duties conflicting with his social life. He looked like he would survive the test, though. Ron McKay came back from Germany with me on the MS *Berlin* and has now donned the khaki for two years. Lee Karney was also in Germany with us and the last I heard he was still playing tourist over there. The three of us all had a very enjoyable and profitable year at German universities.

If you have missed your name in the Class Notes or if you have any news about anybody in the class, pass the word along to me. I shall make sure that it gets in the Notes. Just drop a line to: — EDWIN G. EIGEL, JR., *Secretary*, 3654 Flora Place, St. Louis 10, Missouri.

• 1955 •

Hello! Where in the world are you all? We're really eager to hear from you so that we can pass the word of your whereabouts on to the entire glorious class of 1955. Quite a few of us have taken the fatal step recently. Al Cron and Ellen Marsh Sowles of Wellesley Hills started the parade to the altar on May 15th, and the weeks around graduation were literally filled with weddings of members of the class. William Pragluski and Barbara Strojny of Fairhaven, Mass., were married the day after graduation and are now in Baltimore, where Bill has joined the ranks of Glen L. Martin Aircraft Company. Off to his native Oslo, Norway, went Per Holter-Sorensen on August 1st with his new bride, Diane DeMarias of Plaistow, N.H. Per is a lieutenant in the Royal Norwegian Air Force these days. On June 18th Richard Duggan and Joan Mullen of Newtonville were married, and they are now living in Marion, Mass., where Richard is engineering it up. Marvin Harris has taken Natalie Mintz of Jamaica Plain as his bride back to Atlanta, Georgia, where they will reside. Sid Diamond and Anita Mandell of Manchester, N.H., who were married in June, are living in Urbana, Illinois, where Sid is a research assistant in physics at the University of Illinois, working on his master's degree. Eugene Foster has returned to his home, Kalamazoo, Michigan, adorned by his June bride, Marian Lougee of West Hartford. Gene is working for the Sutherland Paper Company there. Eugene Davis also claimed a June bride, Constance Russell, of Manchester, N.H., and these two are making their home in Cambridge. Eugene did research at the M.I.T. In-

strumentation Laboratory during the summer and is now attending Harvard Law School. In June we passed along the word that Dick DiBona would be Ford-bound soon, but we neglected to say that he'd be taking along Emma Vitulano of Quincy as his bride. That's the end of our present supply of wedding news, but we have a strange feeling that it's just the beginning of the story even now. Bet we're dozens of weddings behind already! This keeping up with people could get to be a real problem. While we're on the subject of matrimony, word of a couple of engagements has reached my ears. Mel Weiner was recently affianced to Florence Cohen of Brookline, Mass., who is a senior at Connecticut College for Women. They plan to be married in June. I (Denny) had the pleasure of attending the engagement party of Dick Bergman and Judy Hyman of Flushing, New York. The party served also as a reunion of the Pi Lambda Phi class of '55. A gay time was had by all, needless to say. Dick will be at the M.I.T. Chemical Engineering Practice School in Bangor working on his master's degree this fall. Judy will be a junior at Bennington.

Robert Dawson is in Hartford, where he's working for Brainard-Bartlett Company and Robert Grout is in Rochester, N.Y. with Eastman Kodak Company. Lloyd and Maureen Vogel are in Cincinnati, where Lloyd is liquidizing the soap business as a development engineer for Procter and Gamble. And, too close for Lloyd's comfort, is one half of yours truly (namely, Dell Lanier) who is endangering P. and G. as its first lady engineer. My other half just can't get away from that wild town of Boston.

Marc Gross, originally headed for Harvard Law, has been enjoying his summer job at the patent office in Washington so much that he has decided to remain there and attend Georgetown. Marc plans to continue his job and study law at their night school. Barton Roessler is back in town for graduate study in metallurgy. Bart worked at General Motors in Detroit this summer, and I guess he was really sold on the company since he is driving one of their brand new products.

Roy Salzman isn't zipping around in his own B-52 but he is telling of his wonderful summer at Boeing in Seattle. Roy is back in school for a term aiming at a XV degree to go with his one in VI. I guess his designation will then be (S.B.)2.

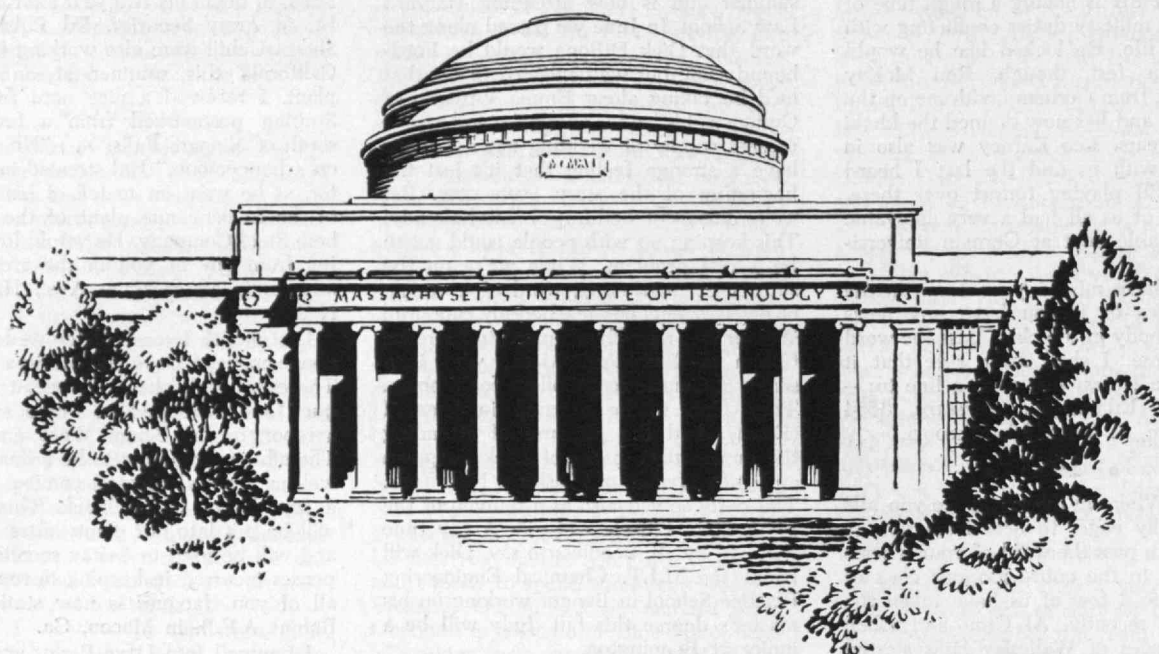
During the summer Walter Fritz was working with the state highway department in California. Early in September,

Walt reported for duty at Ft. Devens, Mass. to begin his two year stint as a 2nd Lt. in Army Security. Ed Pulsifer and Sherm Uchill were also working in sunny California this summer at an aircraft plant. I received a nice note from Hal Stubing postmarked from a few miles south of Niagara Falls. . . . "No, I'm not on a honeymoon," Hal stressed in his letter, as he went on to tell of his transfer to the Lackawanna plant of the Bethlehem Steel Company. He would love hearing from any of you in the area. Hal's address is 36 Sickmon Ave., Hamburg, N.Y.

Last month I received the wedding announcement of Dave and Marilyn Nasatir. The event took place on August 14. Jacques Linder dropped me a note, and gave a report on our Senior Week endeavors. The affairs turned out to be a financial as well as a social success, coming out just a few dollars in the black. This money will be put into our empty class treasury and will be used to defray secretarial expenses incurred in keeping in touch with all of you. Jacques is now stationed at Robins A.F.B. in Macon, Ga.

I bumped into Dave Rados and Norry Hersey in Cambridge. Dave dropped up to visit the old place for a week. He had originally intended going to course XV graduate school, but after a rough bout with mono during the summer, he now feels that it would be wiser to go into the Air Force for a couple of years and think about more schooling afterwards. Norry is doing field engineering with Industrial Nucleonics in Cincinnati. This takes him all over the East, and gives him a chance to drop in on us back here in the old salt mines. Mel Barkan is back in school this year aiming for a master's degree in Building Construction Engineering, and Chan Stevens is doing the same in Course XV.

This winds up the news for this month. This column may have seemed fairly long, but the news, you must remember, is a collection of gleanings from conversations all during the summer. A few of you have dropped us a line, and for that we are most thankful, however, from now on, a column will be coming out every month, and we must have material. So please find time to drop one of us a note telling us where you are and what you're doing; who you have seen, and what you have heard. — DELL LANIER, *Secretary*, 3011 Vernon Place, Cincinnati, Ohio. L. DENNIS SHAPIRO, *Assistant Secretary*, Room 1-483, M.I.T., Cambridge, Mass.



TECHNOLOGY ALUMNI

GET READY FOR AN ACTIVE SEASON!

Mark these dates
on your calendar:

January 28, 1956

February 4, 1956

March 8, 1956

March 17, 1956

June 11, 1956

Participate
in these events:

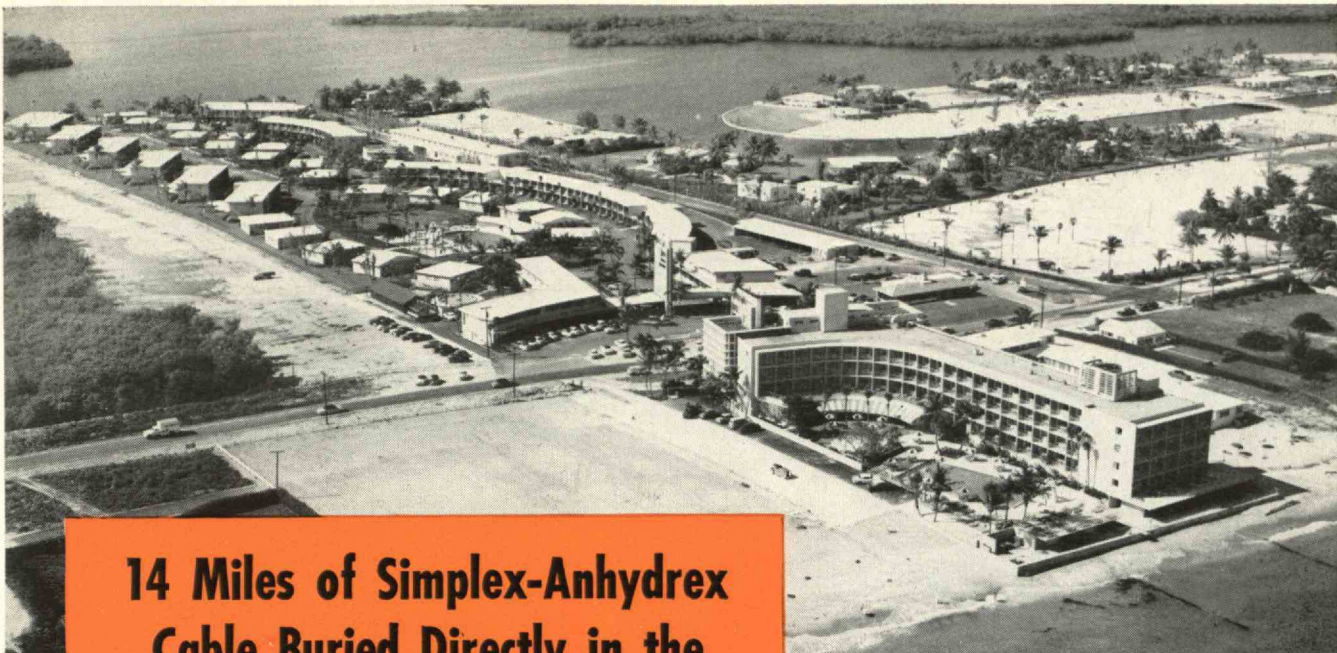
M.I.T. Midwestern Regional Conference
St. Louis, Missouri

Midwinter Meeting
Cambridge, Mass.

8th Annual Fiesta, M.I.T. Club of Mexico
Mexico City, Mexico

M.I.T. Western Regional Conference
Los Angeles, California

Alumni Day at M.I.T.
Cambridge, Mass.



14 Miles of Simplex-Anhydrex Cable Buried Directly in the Earth at 28-Acre Florida Motel

Florida hotel-motel development, where ANHYDREX Cable is buried, showing Atlantic Ocean (lower right) and part of Biscayne Bay (upper left).

**Installed in four miles of trenches to guard against
tropical storms and preserve resort atmosphere**

This swanky 650-room motel development, just completed in Miami Beach, depends almost entirely on Simplex-ANHYDREX 600-volt cable for power for air-conditioning, lighting and a myriad of other uses.

One of the largest direct-burial, underground distribution systems of its type in the South, the cable is insulated with Anhydrex which

resists water, heat and oxidation.

A neoprene jacket protects it against soil acids, abrasion, oil, moisture and mildew.

For economical, safe, neat-looking direct burial, underground distribution systems, investigate Simplex-ANHYDREX Cable.

Call the Simplex representative nearest you, or write to the address below.

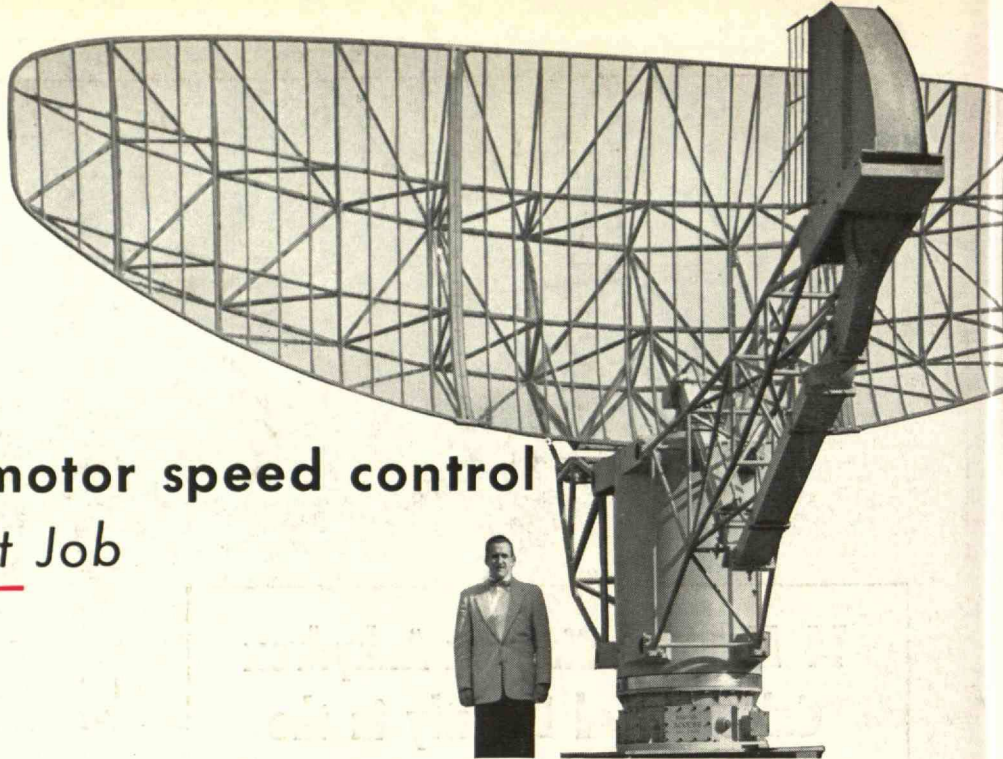
Simplex

ANHYDREX Cable



Variac motor speed control

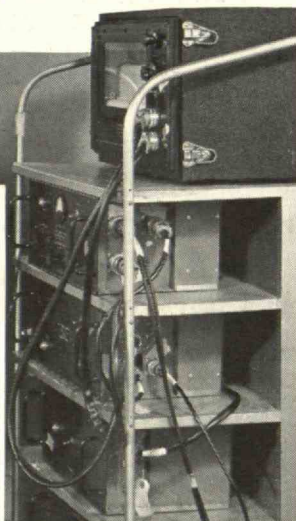
for that Difficult Job



An engineer at the Gabriel Laboratories Needham, Mass., test site, accurately regulates the speed of rotation of a ship-board, long-range radar antenna with the aid of the G-R Variac Motor Speed Control.

A transmitting antenna across the valley from the test site beams a high-frequency signal in the direction of the test antenna as the latter slowly rotates through the horizontal plane. A servo system synchronizes the recording equipment with the Speed Control's output and, consequently, links the travel of the recorder chart with the angular rotation of the antenna.

The ability to slow the 20-foot wide antenna under test to near the stopping point, while maintaining constant speed and



without torque pulsations, permits considerably more accurate radiation-pattern determinations. Beamwidths and side lobes of narrow-beam antennas can be very accurately measured with this equipment.

G-R Variac Motor Speed Controls operate d-c motors from a-c lines . . . available with ratings from 1/15 to 1½ hp at prices from \$75 to \$495. Stripped-down models are available at lower cost, without shielding cabinet, fusing, switching and dynamic breaking, all of which can be incorporated easily in circuits of the user's equipment. For Complete Information, fill in coupon at right.

WE SELL DIRECT

Prices are net, FOB Cambridge or West Concord, Massachusetts

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The superior operating characteristics of the G-R Variac Motor Speed Control ideally adapt this device to a wide variety of control situations . . . in Production Line, Research Laboratory, or Test Department.

This Control has been used, with equal success, to control the speed of small precision lathes, drill presses and jewelers equipment, and for controlling the operation of huge artillery-shell assembly machinery.

In production testing, the Variac Motor Speed Control checks calibration of electric production counters, and is used to control equipment for the wear testing of watch and clock journal bearings . . . in assembly-line operations, it accurately controls the feeding rate of strip steel and other materials on their way to automatic processing equipment . . . in experimental work, the G-R Control regulates the speed of metal rods passing through metalizing guns, and controls speeds of key elements in beta-ray thickness gauges. Finally, many concerns have seen fit to build the stripped-down version of this Control into equipment of their own manufacture to improve operating performance.

The Variac Motor Speed Control does the job where other controls are unsuitable because:

- ★ this device has a continuous and infinite range of speeds from a few rpm to top motor speed.
- ★ the rectified Variac output provides uniform torque, without chattering, under all operating conditions, even at very low speeds of a few rpm.
- ★ and finally, the compactness, simplicity and ruggedness of this equipment allows its use under practically all circumstances.

Please send me the G-R Variac®
Motor Speed Control Bulletin.

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